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: study of three journals and two electronic lists using  
bibliometric, network and controversy analysis.**

Luis Miguel V. A. Neto

*University of Massachusetts Amherst*

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SCIENTIFIC COMMUNICATION IN FAMILY THERAPY AND  
FAMILY PSYCHOLOGY: STUDY OF THREE JOURNALS AND TWO  
ELECTRONIC LISTS USING BIBLIOMETRIC, NETWORK AND  
CONTROVERSY ANALYSIS

A Dissertation Presented

by

LUIS MIGUEL V. A. NETO

Submitted to the Graduate School of the  
University of Massachusetts Amherst in partial fulfillment  
of the requirements for the degree of

DOCTOR OF EDUCATION

September 1995

Education



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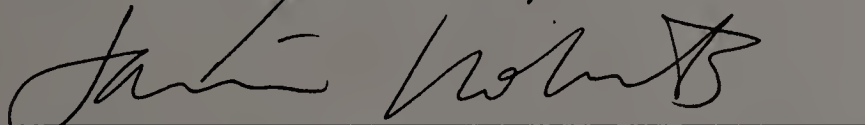
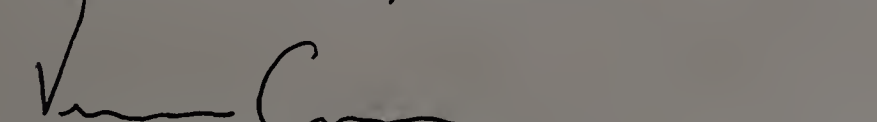
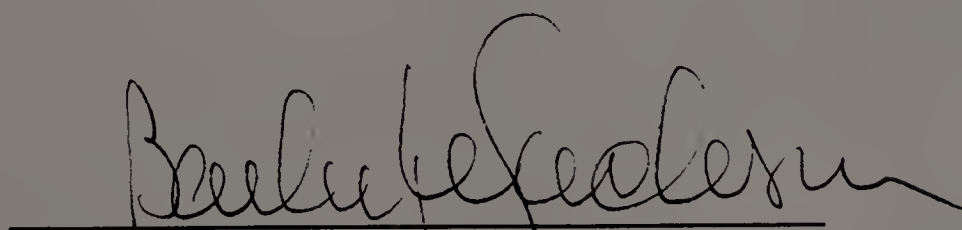
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## ABSTRACT

SCIENTIFIC COMMUNICATION IN FAMILY THERAPY AND FAMILY  
PSYCHOLOGY: STUDY OF THREE JOURNALS AND TWO ELECTRONIC LISTS  
USING BIBLIOMETRIC, NETWORK AND CONTROVERSY ANALYSIS

SEPTEMBER 1995

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The study carried out describes some specific forms of scientific communication in the fields of family therapy and family psychology. It includes as primary source of data three journals (*Family Process*, *Journal of Family Psychology* and *Therapie Familiale*) and two electronic lists: a family studies list titled FAMLYSCI, and the American Marriage and Family Therapy Association's electronic list (MFTNET).

The scientific communication processes analyzed included the study of forms of scientific collaboration, gender distribution of authors and the study of the development of controversial (i.e. polemical or non-consensus) research questions. The methods used included: a) a bibliometric and citation analysis study carried out in order to characterized each journal profile and role; b) a network analysis carried out in order to identify the most



prominent research subjects and teams in each field; c) a controversies analysis carried out with the goal of identifying the type of polemical issues selected by journal editors and the gender distribution of controversies participants.

Within the frame of the mentioned methods a set of dimensions and variables and dimensions were selected accordingly to the above stated goals. Concerning the bibliometric and citational approach the variables selected were: number of articles published, average number of references per article, number and gender of first authors and co-authors, country of professional address of first authors, institutions where the research took place, key words used in the title of the articles, patterns of acknowledgment and grants and awards. The network analysis associated the research questions implied by the articles titles with the most prolific research teams in each field. Finally, the controversies analysis identified the controversies subject, the type of controversy and the participants gender. An adjunctive frame of analysis included the examination of the two mentioned electronic lists, specifying gender of participants, institutions of electronic addresses and countries involved.

The results obtained point to a set of specific features of the emergence and consolidation processes of

family therapy and family psychology. The analysis of the journal *Thérapie Familiale* also demonstrates specific attributes of the dissemination of scientific information in the French speaking community of family therapists and researchers.

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## CHAPTER 1

### DEFINITION OF THE PROBLEM

The problem to be addressed by the present study will be described in this chapter. I will explain the background of the problem, and will discuss its rationale and significance. The anticipated limitations of the proposed study and the anticipated results will constitute the final considerations in this chapter.

#### Statement of the Problem

The proposed study described below and the objectives it seeks to illuminate, is included in the study of the communication processes in a scientific context. First, I will address the problem of scientific communication of family therapy and family psychology at the level of the written communication in each of the three specific journals selected. Second, I will address the issue of the changes brought about by electronic medium of communication in the refereed disciplines.

The proposed study will also seek to identify and compare the main characteristics of the three journals in the fields of family therapy and family psychology: *Family Process*, *Therapie Familiale* and *Journal of Family Psychology*. A supplementary goal to be achieved with the

study will be to describe and compare the emergence and consolidation of two disciplines: family therapy and family psychology. A fourth goal will include the study of two electronic lists: the family science network (FAMILYSCI) and the electronic list of the American Association of Marital and Family Therapy. The purpose of focus is to the study of the changes brought to the two mentioned disciplines by the electronic media of communication.

In order to accomplish the first objective, a set of procedures described by the literatures of bibliometrics (e.g. citation analysis) and sociology of science will be used (e.g. network and controversy analysis). The emergence process of family therapy will be analysed through the citation analysis of the journal *Family Process*, the first journal published in the field. This analysis will include the period of time from 1962 to 1964 (corresponding to *Family Process*, volumes 1 to 3). Specifically, the dimensions to be considered at this level of analysis will include: number of articles published, number of authors and co-authors, gender of first authors and co-authors; institutions where the research was carried out; origins of grants; nationality of first authors and patterns of acknowledgement. The objective is to identify through the literature analysis the sociological characteristics of the field during its early years. The bibliometric and citational variables will also allow the longitudinal study of the evolution of the field. This will be accomplished

through a set of comparisons between the results achieved in respect to the volumes 1 to 3 and 31 to 33. A second level of comparison will be carried out between the two fields in order to clarify the differences between family therapy and family psychology emergence.

Another goal stands closely related to the stated objectives concerning the identification of the main characteristics of the two fields literatures and the most relevant sociological features revealed by them. This goal concerns the description of the most significant questions and groups of research in the two referred disciplines. A network analysis (Shrum & Mullins, 1978) will seek to identify the questions of research more consistently reported by the published articles. This way, during the referred period of time, the analysis described will identify the most visible research lines and teams in the field.

At this level of analysis the proposed study will try to clarify the following questions:

- 1) What are the differences between the process of emergence of family therapy and family psychology, obtained by the bibliometric and citation analysis of some of its more visible journals? What are the commonalties between the two processes?

- 2) What are the main characteristics of those emergence processes when compared to other fields, as described in the

literature (e.g. radio astronomy, tropical medicine, and so on)?

3) What are the main sociological characteristics (e.g. gender, institutions, countries involved) of the "invisible college" of authors in the two domains considered?

4) What are the differences as expressed by the articles published, between the teams and lines of research in the two disciplines?

5) What are the characteristics of the network of the most visible researchers in each of the two fields?

The study of diffusion of information to be carried out will use the French written and Swiss edited journal *Therapie Familiale*. Given the historical circumstance of the family therapy discipline being a discipline which emerged in the USA it is particularly relevant to analyze the process of dissemination of information in a non-English speaking context. I will seek to address two objectives. The first is to confirm the universality of family therapy as a scientific discipline. The second is to identify the influence of cultural singularities occurring in the process of dissemination of scientific information.

The journal selected, *Therapie Familiale*, has been published since 1980 which makes it the oldest of the family therapy journals written in French. Besides the availability of the entire collection, a particular reason for its selection lies in the international extension of the research reported, which includes studies carried out in



almost all of the French speaking countries (e.g. Belgium, Quebec, France, Senegal) and several other European and African countries.

The questions to be addressed by the mentioned part of the study are:

1) How can the diffusion of scientific information in one non-English speaking context as seen through the citation analysis of the journal *Therapie Familiale* be characterized?

2) What are the differences in the process of dissemination of scientific information between the English and French speaking contexts of family therapy as shown by the bibliometric and sociological analysis of two journals (i.e. *Family Process* and *Therapie Familiale*)?

Within the scope of the study of scientific communication processes in family therapy and family psychology, it is also proposed to analyze specific features of two electronic lists: the family science list and the electronic list from the American Association of Marriage and Family Therapy. The main goal of this study is to assess the influence and impact of this electronic mean of communication. This will be done through the analysis of the lists specifying gender, institution and country of participants. To complement this analysis a set of interviews with the list organizers, Dr. Gregory Brock from Kansas University, and Dr. Cleveland Shields, from Rochester University, will seek to clarify the issues

related with lists rate growth, and list organization features. The questions to be explored by this subset of the proposed study will be:

- 1) What are the main features of the two lists (e.g. number, location and gender of subscribers, rate of growth, number of messages exchanged etc.)?
- 2) What are the main differences between the role of a list organizer and a journal editor?
- 3) How the list organizers evaluate the impact of the electronic lists into the scientific community of family therapists and family psychologists?
- 4) What might be anticipated about the influence of this mean of communication for family therapists and psychologists, outside the USA, namely in less industrialized countries?

Besides the citational and bibliometric study of three journals and the analysis of the features and impact of electronic communication in the fields of family therapy and family psychology, a third method of inquiry will be used in order to examine the communication process in the two already mentioned fields. The method to be used is controversies analysis, a method previously used in diverse contexts, namely in the areas of science, politics and ethics (Engelhardt & Caplan, 1987). This line of inquiry is parallel to the study of emergence of both disciplines and to the study of dissemination of scientific information. While the last two concern questions related to the

evolution of the literatures and the communicational process of dissemination of information, the analysis of controversies is expected to give an account at the level of specific content that characterize a given scientific discipline. In introducing this method the goal is to take into consideration the non-consensus areas and themes of research in the two disciplines. This analysis will integrate the controversies defined by the editors of the journals *Family Process* and *Journal of Family Psychology* covering respectively, the issues published between 1962 and 1992 (*Family Process*) and the issues from 1987 to 1994 (*Journal of Family Psychology*).

The questions to be clarified by this analysis will include:

1) Which were the topics defined by some of the journal editors as controversies in the fields of family therapy and family psychology ?

2) What was the impact of the mentioned controversies in the shaping of the scope of the two fields ?

3) What are the major differences between the controversy process in the two disciplines? And between the two referred to disciplines and the controversies in other domains ?

4) Who are the authors more involved in controversies in the fields of family therapy and family psychology? Which is the gender of the authors most frequently involved ?

## Background of the Problem

The proposed study stands at the confluence of different research traditions, namely sociology of science, bibliometrics and citation analysis. The study of the emergence of specific scientific disciplines, previously done within the scope of sociology of science, enabled social scientists to identify the institutional and social circumstances associated with the emergence and development of that same scientific disciplines. It might be assumed that this kind of studies implicitly have a descriptive and historical emphasis. One might even discern a recursive loop in the process of development of scientific disciplines: a discipline that seeks to understand its own historical evolution and intrinsic communication processes might be considered as a 'mature' discipline (Borgman, 1990). In fact, in the point of view of the history of science, Kuhn (1970) observed and reported the emergence of specific information sources and professional committees dealing with issues related with the management of scientific information in disciplines such as physics, chemistry and medicine as a sign of discipline maturity.

Following the analytical scheme of some authors in the sociology of science approach (e.g. Barber, 1990; Kuhn, 1970) the consequences of the proposed study might be classified in the following manner:

a) external or internal consequences and,



b) theoretical or practical consequences.

At an external level, it is expected that it will enable diverse social scientists to obtain a detailed description of the circumstances and ingredients of the process of emergence of family therapy and family psychology. The specific pattern and circumstances of emergence of these two disciplines might then be compared with the descriptions of similar processes. This way, it may contribute with new data to the study of the common elements to different disciplines (e.g. the sociological circumstances of emergence and consolidation of scientific disciplines). It will also provide a descriptive account of the evolution of specific dimensions in the referred disciplines (e.g. proportion of female authors, rate of internationalization and so on).

At the internal level it is also expected that the consequences for scientists and authors working in the context of the analyzed disciplines might be interesting and productive, since it will give them a representation of the development of their own field. Simultaneously, the bibliometric methods to be used, specially the citation analysis of journals, might provide the fields' professionals with an account concerning the scientific collaboration procedures in the field (e.g. patterns of acknowledgement, collaboration between institutions, international collaboration). Other methods, such as network analysis, will make possible to infer the communication

processes implicit in the scientific production in the context of each discipline analyzed (e.g. sequence and development of the most refereed research questions in the field).

The studies of dissemination and diffusion of scientific information (e.g. American Psychological Association's project, 1963-1970) are also directly related with the premises of the proposed study. The referred APA project was aimed at the optimization of production and sharing of scientific information within the psychology domain (Garvey & Griffith, 1965; Price & Beavers 1966). For example, diverse studies were performed under the sponsorship of APA in order to overcome the publication lag, that is the period of time that takes a manuscript to be published after it is accepted by a journal. The study of the different channels of communication (e.g. formal and informal) implied in the publishing activity were also taken into consideration (Garvey & Griffith, 1971). Some authors and researchers reviewed the process of publishing in APA journals, having attributed to that process a specific status directly related with the involvement of APA members as writers, reviewers and editors (Cronin, 1982; Eichorn & VandenBos, 1985). It seems to me that a similar project done in order to enhance the scientific communication procedures in the fields of family therapy and family psychology should take place. The proposed study may be a contribute to that endeavor.

### Rationale for the Study

Since the family therapy field has seen an exponential process of growth at various levels in the last thirty years, it seems particularly relevant to study its emergence. Through the comparison with the emergence of other scientific domains, it is possible to find out specific features of the discipline emergence. The bibliometric analysis of the structure of the literature of a given discipline constitutes an adequate approach for the study of this process.

Relating to the study of information dissemination the field, the bibliometric approach should be complemented by other methods. This is so because the study of dissemination and diffusion of scientific information addresses other levels of analysis beyond the analysis of the scientific literature. In this context, it seems particularly important to consider, not only the fluxes of information between one given discipline and those related to it, but also the specific role accomplished directly by the organizers of electronic lists. The conclusions achieved at this level might then be compared to the literature concerning the role of scientific journals editors (Cronin, 1982; White, 1985; Zsindely & Schubert 1990).

Another way to approach the questions related to the analysis of the dissemination of information will be

constituted by the study of the diffusion of information in different contexts not defined by the English language. The citation analysis of the French-written journal *Thérapie Familiale* is aimed at confronting the data obtained in the two referred contexts.

The network analysis proposed will relate the development of research questions and themes in the field with the different groups of authors and institutions 'behind' that evolution. This way it is expected to link the pattern of internal development of the disciplines analyzed and the external circumstances - namely sociological - of that development.

Finally, the study of the controversies in the field will relate the development of different theories and ideas with the evolution of the discipline. At this level, the link with sociological dimensions will also be taken into account, namely through the analysis of the participants in controversies gender. The comparison between controversies in family therapy with the ones of family psychology, and between the ones of these two fields and the ones of other domains will also take place.

### Significance of the Study

This study will be significant for family therapists and family psychologists, since it will provide those professionals with a sense of the development of their own



disciplines. It is assumed that the awareness of the historical circumstances of the emergence of a given discipline will have positive consequences for the professionals working in the context of that same discipline. Those positive consequences stem from the knowledge that each professional might gain from the location of her/his views, within an evolving and ever changing context of ideas, that is, the history of their own discipline. Both researchers and therapists may gain a sense of intrinsic development of the fields familiar to them, the individual contributions being the main instrument of that same development.

A second level of significance of the proposed study has to do with its implications at the levels of sociology and history of science. Given the fact that equivalent studies have been carried out in a variety of disciplines, it might be of interest to compare the conclusions achieved in different areas of science (e.g. psychology, radio astronomy, thermodynamics, agricultural chemistry).

Last but not least, the proposed study may be significant for family therapists and family psychologists working in less developed countries, usually peripheral in terms of scientific output. The knowledge of both the formal and informal communication processes and procedures may help to increase the participation of those professionals in the scientific community of the analyzed disciplines.

### Anticipated limitations of the Study

Several limitations of the proposed study might be anticipated. It is particularly important to take into consideration the criticisms on citation analysis methods (Edge, 1977, 1979; MacRoberts & MacRoberts, 1989), given the use of that method in the proposed study. On the other hand, the above mentioned criticisms have been taken a fundamental importance in the bibliometrics literature itself. For instance, Edge (1979) criticized the "aggregated" mode of inquiry implicit in citation analysis methods, and McCain (1989) calls it a kind of "snapshot methodology". These criticisms, coming from a sociological perspective, prescribe a circumscribed role for citation and, specially, for co-citation methods. They imply a proposal of other methods and the study of internal and external circumstances of scientific development. From that point of view citation analysis methods should only play a small and secondary role. Instead, a direct and ethnographic study of scientists behaviors and accounts (e.g. Knorr-Cetina & Mulkay, 1983) is offered as a alternative line of analysis. From the criticism of the methods used in bibliometrics and citation analysis, it seems reasonable to maintain the idea that a strict quantified study of science, defining a limited set of ingredients of science production (e.g. citations) is much too reducing. Although the citation

counting have been highly regarded in terms of policy decisions (e.g. grants, definition of priorities of research, promotions, criteria for scientific awards), it seems important to remember that even those responsible for the development of the main scientific databases acknowledged its limits (Garfield, 1992).

A more specific criticism comes from the work of MacRoberts and MacRoberts (1989). After a review of bibliometric literature, these authors considered that a set of unsolved problems still influence the range of conclusions brought about by bibliometric studies. These problems included: a) The existence of formal and informal influences not being cited; b) Biased citing, namely self-citing; c) Variations in citation rates according to type of publication, nationality, time period and importance of speciality; d) Technical errors.

It seems reasonable to conclude that bibliometric and citation analysis derived methods have limitations and should be complemented with other analytical procedures.

Regarding the methods of studying the processes of communication and dissemination of scientific information in family therapy, it seems important to take into account the limited amount of studies reported, particularly in what concerns the diffusion of scientific information into a language context other than English. However, it is of utmost importance to assess the universal dimension of

family therapy, namely through the study of its diffusion in the French speaking community of scientists and therapists.

The main strength of the proposed study concerning the above mentioned limits stems from the fact that it is intrinsically a multimethod, manifold approach to the problems addressed. In fact, even if the question of emergence of family therapy and family psychology is basically addressed having as basis the citation analysis procedure - namely in what concerns the selection and analysis of journals variables as the main source of data - the selection of dimensions such as patterns of acknowledgements, origins of grants, nationality of first authors - i.e. non-obtrusive measures - as indexes of scientific collaboration, clearly enlarges the range of conclusions of the citation analysis to be done. The network analysis proposed also contributes to overcome the possible weakness of trying to analyze the development of a discipline taking strictly into account indexes related with the bibliometric approach (e.g. citations counting). The network analysis proposed will try to relate the main hypothesis and ideas with the groups of authors and institutions in the field. A third answer to the possible "positivism" implied in citation analysis will be constituted by the proposed analysis of controversies. It seems to me that this analysis might be equivalent of a content analysis of the evolution of the ideas that have been shaping both fields.



The main limitation of the proposed study - as well as in the similar research reported in the literature of sociology of science that uses bibliometric and citational methods - lies in its construct validity. In fact while its reliability it is assumed to be rather high, given the circumstance of the non-obtrusive nature of the data and its easy availability. However, the same can not be said in regard of its validity. Even using a multimethod and international approach, to cross validate the conclusions achieved, the relationship between at least some of the variables and dimensions assessed (e.g. citation counts) and the nature of the process they seek to express (e.g. scientific impact) is yet to be demonstrated.

Other limitations come from the use of a relatively small number of journals analyzed. In fact, the literatures of family therapy and family studies include several other journals: *American Journal of Family Therapy*, *Journal of Marital and Family Therapy*, *Journal of Family Therapy*, *Contemporary Journal of Family Therapy*, *Journal of Systemic Therapy*, *Journal of Feminist Family Therapy*, just to name just the most important journals in the family therapy area.

The same reasoning applies to the limited number of language communities studied, given the fact that only English and French written journals are going to be analyzed. However, the importance of journals written in other languages such as German (e.g. *Zeitschrift fur Systemish Therapie*, *Familien Dynamik*) Italian (e.g. *Terapia*

Familiare-Rome), and Spanish (e.g. Terapia Familiar-Argentina, Terapia Familiar-Spain) and French (e.g. Cahiers Critiques de Therapie Familiale et Practiques de Reseaux-Belgique), is well known by the professionals of the family therapy field. Given the practical circumstances of the proposed study, namely in respect of the availability of the above mentioned journals it seems to me that it should be considered as a preliminary research, of a problem requiring further study.

#### Intended pragmatic consequences of the Study

Although the specific conclusions of the proposed study can not be predicted in all their extension, the general implications of it might be anticipated. Its most generic implication has to do with the availability and accessibility of scientific information in the fields of the family therapy and family psychology. Within the study of the evolution of scientific communication in the last three centuries, the written scientific journal has stood as the central element of scientific communication (Garvey, 1979; Houghton, 1975; Meadows, 1974; Price, 1963, 1986 ). Since the proposed study will also address questions concerning the use of electronic means in the dissemination of scientific information, it will be probable that the use of that medium will stand as highly recommended, particularly

in less developed countries. This argument gives place to the first pragmatic implication of the present work: the study of the possibility of the organization of a Portuguese and Spanish speaking electronic list of family therapy and/or family psychology.

The idea is to accelerate the rate of knowledge diffusion in non-English language contexts, helping to bridge the gap between the rate of scientific production and dissemination in the English speaking context of family therapy and psychology, and the Spanish-Portuguese one. However, the gap in the scientific information diffusion from the English speaking community into other languages is yet to be proven. The study of knowledge diffusion in the French community of the family therapist may also shed light on this issue.

#### Relationship among problems addressed, methods used and selection of Data

It is important to make an overview of the study in terms of its design, relating problems to be addressed, methods and the data gathered time periods. Concerning the data gathered in terms of its origin and specific time period, I will have the following 9 subsets: a) *Family Process* bibliometric data corresponding to the period from 1962 to 1964; b) same kind of data but corresponding to the time period from 1992 to 1994; c) *Journal of Family*

Psychology bibliometric data corresponding to the time period from 1992 to 1994; d) *Therapie Familiale* bibliometric data corresponding to the time period 1980 to 1982; e) same kind of data but corresponding to the time period from 1992 to 1994; f) list of participants of the electronic net FAMLYSCI and an interview with its organizer; g) list of participants of the AAMFT electronic net and an interview with its organizer; h) list of titles and participants of controversies in the journals *Family Process* (1962-1994) and *Journal of Family Psychology* (1987-1994) and *Therapie Familiale* (1980-1994); I) list of research networks corresponding to the authors who published in the journal *Family Process* (1962-1964 and 1992-1994), *Journal of Family Psychology* (1992-1994) and *Therapie Familiale* (1980-1982 and 1992-1994).

The methods selected to analyze the data in order to identify and describe the major scientific communication processes taking place in the two mentioned fields were: bibliometric and citation analysis, network analysis and controversies analysis. I will give a comprehensive description of these methods and the reasons why they were selected to approach the problems addressed in the third chapter.



### What might be expected from the results to be Achieved

The results to be achieved will be submitted to a set of comparisons in order to elucidate the research questions previously described. I will consider 8 lines of comparisons directly related with the referred to research questions: a) a longitudinal comparison of the citational results (e.g. number of articles, number of references per article, number of authors and co-authors, gender of authors and co-authors, countries, institutions, patterns of acknowledgment and origins of grants) relative to family therapy and obtained through the journals *Family Process* and *Therapie Familiale*, contrasting the first years of publication (1962-1964 and 1980-1982) with the most recent issues at the current date (1992-1994); b) a comparison between disciplines through the contrasts of bibliometric data gathered from the journals *Family Process* and *Journal of Family Psychology* (1992-1994); c) focusing the question of dissemination of information in non-English contexts, a comparison to be established between different languages (i.e. English and French) of the same discipline (family therapy) using bibliometric data gathered during the time periods from 1962-1964 compared with 1980-1982 respectively for *Family Process* and *Therapie Familiale*, and 1992-1994 for both journals; d) a comparison of the bibliometric data gathered among different disciplines and language contexts for the same time period (1992-1994); e) in order to describe the emergence and consolidation

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processes in family therapy and family psychology a comparison between the bibliometric data of the first three years of publication of the journals *Family Process* (1962-1964) *Journal of Family Psychology* (1992-1994) and *Therapie Familiare* (1980-1982); f) a comparison of sociological (e.g. gender, country and institutions of participants and authors between journals and electronic lists; g) a comparison of the research teams network in family therapy (1962-1964 and 1992-1994) and family psychology (1992-1994); h) a comparison of controversies subjects and participants in family therapy (1962-1964) and family psychology (1987-1994).

The comparisons mentioned address different questions and the results expected are also dissimilar. About the question of the emergence and consolidation of the referred to disciplines - above mentioned comparisons a) and f) - it is expected that both bibliometric and sociological data will reflect the development of each field. For instance it is expected that the number of authors, co-authors, articles, acknowledgements, grants etc. will increase with the years analyzed. The same pattern is expected in regard to the scientific collaboration related variables (e.g. number of co-authored articles, number of co-authors from different institutions collaborating in the same research, number of co-authors from different countries). It is also expected that the amount of female authors and co-authors will increase along the years of disciplinary development.

Concerning this two dimensions - above mentioned comparison d) - it is expected that family psychology will show the highest rates of scientific collaboration and a more balanced distribution of authors gender, followed by the family therapy English speaking community and then by the French speaking community of family therapists given. The reasons for these expectations are due to the newness of the first mentioned discipline and the cultural traditions implicit. A similar pattern of expectations applies to the above mentioned comparison e) for exactly the same reasons. The last comparison to be established using bibliometric and citational data, concerns the dissemination of information into a French speaking community of family therapists. It is expected that the same subjects of research will be reported in the two family therapy journals. However, a certain delay will be expected regarding the French written literature.

Concerning the network analysis, it is expected that at least some of the authors related with the most visible lines of research in the family therapy and family psychology literature will coincide. The big unanswered question will deal with the degree of redundancy to be found, and the identification of the authors prominent in both literatures.

Given the literature review carried out on the specific matter (cf. chapter 2) controversies analysis is expected to show a pattern in which the amount of



controversies will be covariant with the newness of the discipline. New disciplines are expected to have more controversies than older ones and within the same discipline the emergence period will be characterized by a bigger amount of controversies. The reason for this expected pattern lies in the process of discipline normalization and shift from organic solidarity to mechanical solidarity described in the sociology of science literature (Kuhn, 1970; Law, 1976).

## CHAPTER 2

### REVIEW OF THE LITERATURE AND RESEARCH

#### TRADITIONS

In this chapter, the proposed study of scientific communication in family therapy and family psychology carried out through the analysis of three journals and two electronic lists will be integrated in the traditions of research from where its foundations come: bibliometrics and sociology of science. Special attention is also given to the following methods: citation analysis, network analysis and controversies analysis.

#### Definition of Terms

##### Bibliometrics

Bibliometrics is usually defined as a set of methods which

"sheds light on the processes of written communication in science. Its primary goal is to identify the nature and course of development of a given scientific discipline (in so far as this is displayed through written communication) by means of counting and analyzing the various facets of written communication" (Pritchard, 1969; pp. 348).

The most common method within the Bibliometric approach is citation analysis, defined as the quantification of citations made and received by scientific journals. Other methods also relevant in the bibliometric literature are: co-citation (Griffith & Mullins, 1972; Small, 1973; Small &

Griffith, 1974), bibliographic coupling (Kessler, 1962; 1965), content analysis of citations (Chubin & Moitra, 1971), and context analysis of citations (Moravcsik & Murugesan, 1975).

One distinction within the Bibliometrics field pointed out by Borgman (1990) is particularly relevant: not all the bibliometric methods and research questions related are used for the study of emergence and evolution of scientific disciplines, networks of scientists and scholarly communication. Other bibliometric methods and research designs deal with issues related to the evaluation of library collections and information retrieval algorithms. This specific subset of bibliometrics literature is not directly related to the objectives of the proposed study, and will not be considered.

At the level of the analysis of scientific literatures, one seeks to understand how a given scientific domain emerged and evolved throughout time. For example, bibliometric methods were used by Garfield (1970) in the description of the research that lead to the proposal of the DNA double helix model. More extensive problems, such as the empirical verification of differences among science, technology and the arts, were also investigated from a bibliometric point of view (Price, 1977). The main conclusion achieved concerned the identification of specific characteristics of the literature of each area of inquiry.

## Dissemination of information and scholarly Communication

Besides the study of the written literature, bibliometrics and other methods have been applied in order to characterize scientific communities and their evolution (Borgman, 1990). The study of specific "invisible colleges" is an example of this line of inquiry (Crane, 1972). The research questions common to a large set of studies of sociology of science within this scope (e. g. Barber, 1990; Crane, 1972; Griffith & Mullins, 1972; Lievrouw, 1990; Price & Beaver, 1966) deal primarily with the identification of persons directly related to a given scientific literature, their visibility in that structure, and the nature of communication (e. g. formal and informal) established among the scientists of that same domain. The scientific and scholarly communities might be defined by the producers (e.g. the scientists working and publishing in journals of a specific discipline), artifacts (e.g. articles, books and any other form of scientific communication authored by scientists of the field), and concepts (i. e. cognitions formulated by scientists and disseminated in the context of a scientific discipline or research front).

A particularly relevant issue related with the definition of scientific and scholarly communities, specially in the fields of family therapy and family psychology, is the description of the emergence of



scientific disciplines. In fact, the theory of historical development of scientific disciplines emerging from a revolutionary period to a normal state of development is well documented in sociology of science literature (Kuhn, 1970). The author gives the example of well established sciences such as chemistry, physics and medicine having had, for a long time, specific committees and publications expressly concerned with the question of dissemination of information. This process of self-observation was conceptualized by Kuhn as a sign of paradigmatic development of those sciences (Kuhn, 1970).

The question of dissemination of scientific information was also defined as a major scientific question in psychology. For example, Garvey and Griffith (1964; 1966) used a set of procedures, in part derived from bibliometrics, to illuminate questions related with the dissemination of scientific information in psychology, emphasizing specially the ways to overcome the lag of time intrinsic in the publishing process. The American Psychological Association created a "Project on Scientific Information in Psychology" and the journal *American Psychologist* published an entire issue specifically addressed to this subject and its related questions, with some articles authored by researchers directly linked with bibliometrics and sociology of science (e. g. Menzel, 1966; Parker & Paisley, 1966; Price & Beaver, 1966; Siegman & Griffith, 1966; Swanson, 1966;). However, later uses of

bibliometric methods in psychology - specially citation analysis - entirely omitted the contributions of the bibliometrics literature (e. g. Boor, 1973; Hohn & Fine, 1973; JaKobovits & Osgood, 1967; Mace & Warner, 1973; Meyers, 1970; Xhignesse & Osgood, 1967). The argument here is the following: a citation analysis of citation analysis in Psychology will most probably conclude that the two scientific literatures considered just have a tangent contact. However, the two literatures address similar problems.

#### Emergence of scientific Disciplines

The study of the emergence of scientific disciplines is a vital part of the sociology of science approach. It considers as specific subject of study the emergence and growth of research areas (e. g. scientific disciplines and research fronts). The referred to study is usually done through the analysis of the social and intellectual processes associated with a given discipline or research front (Woolgar, 1976). Two major methods in the sociology of science might be identified as influences in the study of the emergence and growth of scientific specialties: First, a normative oriented view of research, which tends to emphasize the conditions for achieving cognitive consensus in a given scientific discipline. Second, an interpretative influenced method which tends not to assume the cognitive

consensus as a stable and permanent characteristic of scientific disciplines (Law, 1976). Both approaches (i. e. normative and interpretative) use as data the analysis of published literature of the disciplines they intend to study. However, the interpretative approach tends to consider other sources of data, such as interviews with scientists, analysis of correspondence, accounts of popular press on specific scientific matters, and others (Mulkey, 1976; Mulkey & Edge, 1976). This approach considers that "the development of a speciality might be seen as a movement from an organic to a mechanical basis of solidarity among scientists". From this point of view, it is implied that the nature of the relationships between members of a specific scientific community reflects the degree of evolution of the discipline: while mechanical solidarity is assumed to be characteristic of a scientific context, where scientists are highly committed to certain models of explanation, the organic solidarity fits a degree of disciplinary evolution where the relationships among scientists are shaped by a joint propose to solve certain defined problems (Law, 1976). For instance, scientific controversies, are conceptualized as characteristic of an organic solidarity context, but are not associated with mechanical solidarity contexts. Relating disciplinary development with relationships among the members of a given scientific community is, in my view, a very strong contention deserving to be studied in the family therapy and

family psychology fields. If the data would confirm this hypothesis, the specific state of development of a scientific discipline will function as a contextual frame which might help to explain some of the scientific communication observed among members of the field.

The methods used and the conclusions achieved by the sociology of science approach are also related to the emergence and growth of scientific disciplines, are directly related to the history of sciences. Several authors, using the sociology of science methods investigated the processes and circumstances associated with disciplines that emerged in time contexts other than the 20th century. Krohn and Scafer (1976; 1982) investigated the emergence and the structure of agricultural chemistry, concluding that the referred to discipline was a 19th century example of a 'finalized science' that is, a discipline that included in its scope human needs and interests, as the study of circumstances related to nutritional needs, the population explosion after the industrial revolution, food resources and characteristics of production of the 19th century<sup>1</sup>. The origins of thermodynamics (Costabel, 1976), physical chemistry (Dolby, 1976), tropical medicine (Worboys, 1976) and psychology (Ben-David & Collins, 1966) were also investigated within an approach of the history and sociology of science. However, the roots of this line of research

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<sup>1</sup> Incidentally, it is worth noting that the historical origins of the University of Massachusetts at Amherst are directly related with the 19th century emergence of Agricultural Chemistry.



should be attributed to Robert Merton's dissertation written in 1938 the title of which was, *Science, Technology, and Society in Seventeenth-Century England*, later published in book form (Merton, 1970).

Besides the relationship between the nature of links among scientists and the scientific context of a discipline, as pointed out by Law (1976), other conclusions were achieved by sociologists of science which have a direct interest for the present study: a) the identification of stages of a new discipline, according to the work of Dolby (1976); b) the analysis of the relationships between teaching and researching institutions (e. g. Universities) and the development of a given discipline (Beniger, 1990; Dolby, 1976); c) the study of scientific collaboration (Beaver & Rosen 1978; 1979; Price & Beaver, 1966); d) the study of the internationalization process of scientific disciplines (Moed & Bruin, 1990); e) the relative importance of the individual contributions of scientists to science, defined as a collective entity, which took the name of the "Ortega Hypothesis" (Cole & Cole, 1973; Hagstron, 1982); f) the exponential cumulative rewarding success of highly prolific authors, for whom success breeds success; this circumstance took the name of the "Matthew effect" (Merton, 1968).

Bibliometry evolved from the work carried out by Price (1963, 1977, 1986), although one might consider other researchers as anticipating the approach (Bradford, 1934;

Lotka, 1926; Zipf, 1935). The literature of Bibliometrics is usually expressed in journals such as the *Journal of the American Society of Information Science*, *Scientometrics*, *Journal of Information Science*, *Journal of Documentation* and also, to some extent, in the journal of *Social Science Studies*.

The studies on the dissemination of scientific information use mainly bibliometric methods. However, they also use other methods coming from sociology of science, for example the ethnographically oriented observation and study of scientist behavior in their own context, the laboratory (Knorr-Cetina, 1983). The study of the dissemination of information has consequences for the development of the discipline or disciplines where it is applied. A major case example is given by the study of dissemination of scientific information in psychology, carried out during the 1960's specially by Belver and Griffith (1965). The main question that these authors addressed dealt with the lag of time of publication, that is, the time it takes for an article to get published after being approved for publication. Beyond the original analysis of the communication levels implied in publishing activity (namely the distinction made between formal and informal scientific communication), the work carried out by Belver and Griffith helped assess alternatives to reduce the period of time it took an article to get published. After the use of electronic medium of communication in scientific contexts, namely through

electronic journals and lists it is important to contrast the conclusions achieved by the study of scientific communication in psychology referred to and a current assessment of the problem.

### History of the use of bibliometric methods in Science

The study of the characteristics of scientific literatures links diverse traditions of research (Borgman, 1990; Griffith, 1990; Paisley, 1990). The specific link between the bibliometric approach and Kuhn's (1970) position in the history and sociology of science is clearly made explicit by this author, in a second edition of his book *Structure of the Scientific Revolutions*:

"preliminary results, many of them still unpublished, suggest that the empirical techniques required for its exploration are non-trivial, but some are in hand and others are sure to be developed" (Kuhn, 1970, pp. 176).

Kuhn cites authors and research that later became classics in the bibliometrics literature, such as Crane (1969), Garfield (1964), Price (1965) and Price & Beaver (1966), in support of his contention about an empirical line of research concerning scientific communication. Incidentally and in the context of the referred association between bibliometrics and the kuhnian vision of science and scientific evolution, it is quite ironic to use

bibliometric methods (as citation analysis) to refute a thesis of Kuhn about the paradigm displacement within the psychology field, as was done by Friman, Allen, Kerwin & Larzelere (1993) in their research using psychoanalytic, behavioral and cognitive journals' citation analysis.

The foundational bibliometric work was carried out by Derek de Sola Price (1963) and published in a book the title of which was *Science since Babylon*, which, although mainly historical in nature, also addresses questions related to the growth of science and its intrinsic "diseases". The main hypothesis developed concerned the exponential growth of science as its main characteristic and its effects, namely the proliferation of new research fronts, the huge accumulation of knowledge concentrated in the literature of the diverse scientific domains.

After 1963 the databases made available to researchers allowed the emergence of an entire line of research having as the unit of analysis the citations made by scientific journals. Garfield (1972) hypothesized that a small percentage of journals contained the most cited articles in scientific literature, therefore establishing a hierarchy of impact in each specific scientific discipline. The identification of high impact scientific journals are significant for less developed countries, since readers from those countries would not have to subscribe to the entire literature (at a significant cost) of a given domain to have access to the significant literature of that same



domain. A parallel development was introduced by the work of sociologists of science concerning the identification of the diverse scientific communities "behind" the visible literatures of a given scientific domain. The expression used to describe these communities was "invisible colleges", an expression reintroduced by Price and Beavers (1966) who, following Price's suggestion, took it from one of the first modern scientific journals *The Proceedings of the Royal Scientific Society*, an eighteenth century anthology of scientific communications published in London. The relationship between the informal contacts among scientists and the network of communication within them was later identified as one of the most important variables that influenced scientific productivity, for instance in the community of rural sociologists (Crane, 1972) and in a sleep research community (Crawford, 1971). During the 1970's, coming again from a sociology of science point of view, the study of emergence of scientific disciplines and research fronts was initiated (Mulkey & Edge 1976). Bibliometric methods were also used specifically to investigate the emergence of literature on the question of delinquency (Cole, 1975).

Bibliometric methods have also been integrating a sociological account of science, which was used in addition to other methods within the frame of the sociology of science (Merton, 1973). At this level, bibliometric methods helped researchers to clarify questions such as the

stratified and elitist nature of organization and functioning of science (Cole & Cole, 1973), the importance of individual scientists, namely the most prolific, for science development, and the relationship between the emergence of a specific discipline and the community of scientists that constitutes it.

The third tradition of research that has been using bibliometric methods is related with information science and scientometrics. The questions raised by this approach have to do with the quantification of the scientific production at the level of universities, countries and world economic zones.

In the history of bibliometrics one might find works of a bibliometric nature published before the emergence of Bibliometrics as a discipline. This is the case of the study of Gross and Gross (1927) on chemistry journals, valued as important to the scientific background of chemists and proposed to be bought by Colleges libraries. A similar study was carried out by Gross and Woodford (1931) in the context of the literature of geology. In respect to psychology, the first bibliometric research carried out was reported by Cason and Lubotsky (1936) in a study published in the *Psychological Bulletin*. In this study the authors used the citations of psychology journals as the main source of data to define the proximity of the journal relatively to the core of psychology literature, a research question that emerged recurrently in the literature of bibliometrics.

However, the referred article, itself, did not have any footnote or reference of similar research in other fields. Other authors usually referred as bibliometric predecessors are Bradford, Lotka, and Zipf (Broadus, 1987). Each of the referred to authors are currently cited in bibliometric literature since their names were used to identify specific bibliometric laws.

### Uses and applications of bibliometrics and citation

#### Analysis

The uses and applications of bibliometric methods, such as citation analysis, might be seen at different levels. For instance, one might consider the individual scientist as an adequate unit of analysis. However, it is also possible to consider other entities of scientific production such as research teams, fields, countries, and groups of countries. As stated previously, formal uses of bibliometric methods such as the ones more closely related to library management will not be considered in the proposed study. On the contrary, the focus will be on the issues related with emergence, dissemination and use of information in a given discipline, set of disciplines or research front. Several studies stand out as good examples of the use of bibliometric methods in specific domains. I will focus briefly on some of them, given the similarity of the research questions asked in the proposed study and in the

studies mentioned, and between the methods used by them and the methods intended to be used in this study.

The first reference should be made to Small and Greenlee's (1990) work concerning the co-citation analysis of AIDS research. The authors were able to identify the location of the concerned research front within the global structure of bio-medicine literature, tracking its evolution and identifying the most important research issues in the area and the citational relationship - or lack of it - between those scientists. Another citational study of a "topical scientific area" was carried out by Brooks (1990) on superconductivity research. Analysis of the emergence and structure of other specific research areas made within the frame of bibliometrics were the study of collagen research (Small & Greenlee, 1978), the study of informal communication among scientists in sleep research area (Crawford, 1971), and the recursive analysis of the literature of Information science made by Windsor and Windsor (1973). A parallel area of use of bibliometric methods was reported by Ellis (1978), specifically concerning the literature of patents<sup>2</sup>.

The disciplinary uses of bibliometric methods, specifically the use of citation analysis of journals have been applied to an extensive set of domains. It is fair to

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<sup>2</sup> In fact, the literatures of patents and Law did use citation analysis and other bibliometric methods and indexes equivalent to the ones of the scientific literature. The Shepard's Citations is a well known example of a citation index in the Law domain (Cf. Garfield, 1979). Patents also have similar indexes.



start by referring to the research of Narin, Carpenter and Berlt (1972), and Carpenter and Narin (1973) both dealing with the use of scientific journals and journal reciprocate citations as a way to define scientific domains. These studies were possible after Garfield's (1976) classical study on the use of citation analysis as a way of identifying the significant journals of science, that is the ones most cited in the scientific literature. The use of citation analysis spread to fields such as the biomedical literature (Narin, Pinsky & Gee, 1976; Swanson, 1987), psychology (Pinsky & Narin, 1979; Dorein, 1985), economy (Eagly, 1975), population genetics (MacCain, 1990), geography (Dorein, 1988), communication (Reeves & Borgman, 1983; Rice, Borgman & Reeves, 1988; So, 1988), education (1981), mathematics (Slater, 1983), and physics (Singleton, 1976), among other disciplinary uses of the method.

At the disciplinary level of use of bibliometric and citation analysis, the research reported by Eugene Garfield should be seen in a special way given its extent. Using the Institute of Scientific Information Database, he reported studies carried out covering the literatures of chemistry and biochemistry, chemical physics, physical chemistry, experimental medicine, rheumatology, pathology, virology, pediatrics, geology and geophysics, physics, botany, psychology and behavioral science, agriculture, and engineering (Garfield, 1979).

Garfield (1979) also analyzed the structure of scientific literatures taking as a unit of analysis the countries where the scientific journals were published. He was able to identify the journals with most impact published in Russia, France, Japan, and Germany. Other authors such as Persson (1985) did similar research in the Scandinavian countries. A very useful method was reported by this author. He created an approach which relates the scientific collaboration (i.e. co-authorship of articles between Scandinavian authors and authors from highly productive scientific countries) with the global development of Scandinavian science, measured by its scientific total output. In the current study I will use scientific collaboration (e.g. co-authorship) as a dimension to assess the scientific communication processes.

Regarding the fields of family therapy and family psychology, the review of literature carried out shows that the research based in bibliometrics and sociology of science is rather sparse. However, the questions of visibility, productivity and impact of family therapy authors have been addressed and reported in the journals of the field (Forman, 1986; L'Abate & Taxthon, 1982; Shortz, Worthington, McCullough, DeVries & Morrow, 1994; Snider & Rice, 1994; Textor, 1983; Thaxton & L'Abate, 1980; Thomas & McKenzie, 1986). Generally, these studies used the Science Citation Index and/or the Social Science Citation Index databases in order to select the most prominent authors in the field,

judged on the basis of frequency of citations received in a given period of time.

In my opinion, the limits of this line of inquiry come from the fact that the citation counts at the authors level might be influenced by diverse kinds of biases (Garfield, 1992). That is not the case of research that either integrates multiple levels of analysis (e.g. authors, articles published and journals) and multiple procedures (e.g. citation counts and analysis, questionnaires or interviews to authors). The multiple approach defended here offers an intersecting matrix of data collection and analysis providing the opportunity for cross-validation. At a more extensive level, but using a similar approach Bayer (1982) analyzed the structure of the literature of the domain of marriage and family. Authors visibility and impact were one of the set of variables studied in this research. Other variables were authorship, defined by the number of authors of articles, types of sources cited, empirical versus theoretical focus of studies reported, and number of references per article. The multiple level approach and the comprehensive nature of this study gives it a special place in the bibliometric analysis of the literature related to the field of family studies. Also in this area of family studies, it is highly visible the effort made by *The Marriage and Family Review*, which published two issues directly related to questions dealing with the publishing and dissemination of information processes in the field

(Aldous, 1993; Berardo, 1993; Burr, 1993; Gelles, 1993; Gilgun, 1993; Glick, 1993; Hanks, Matocha & Sussman, 1993; Hanks, 1993; Jetter, 1993; Kitson, 1993; Matocha & Hanks, 1993; Matocha 1993; Schumm, 1993; Settles, 1993; Streib, 1993; and Sussman, 1993).

### Problems addressed by bibliometrics and methods Used

The above mentioned definition of bibliometrics implies the use of methods derived from the inference of the characteristics of scientific literatures and based on statistical frequencies and regularities of these same literatures. This quantitative nature of Bibliometrics contributes to the fact that its methods may be referred to simultaneously by an information science approach - which usually does not take the study of human agents as an important aspect of study - and by the sociology of science, where the study of human agency in social contexts is pivotal.

One problem addressed used a combination of bibliometric and sociology of science methods concerned the relationship between the individual scientist and the collective realm we call science. In the specific literature this question is mentioned as 'Ortega Hypothesis'. Contrary to the spanish philosopher Ortega y Gasset contention, Cole and Cole, (1973), demonstrated that not all individual



contributions are significant to the global scientific output. This authors demonstrated that the decisive human factor in science development is given by the small set of highly productive scientists, not the vast mass of scientists with few contributions.

Another question identified and approached within the scope of the methods mentioned concerns the process of stratification among scientists in what concerns the distribution of rewards, resources and scientific production. The 'Matthew Effect' (Merton, 1968; Cole & Cole, 1973) describes where "success breeds success". The scientists whose work had been previously recognized (e.g. cited) will most probably be the ones that are going to collect even more recognition in the future.

The general nature of the process of scientific specialization and cumulative exponential growth was identified by Price (1963; 1967) as the essential characteristic of science. The mentioned author also used bibliometric methods to define an empirical distinction between science, technology and humanities (Price, 1986).

Garfield and Small (1979) used bibliometric procedures and proceed to the mapping of science areas.

The process of emergence and evolution of scientific disciplines was addressed by Cole and Zuckerman (1975), Law (1976), Mulkay (1976) and Woolgar (1976). This question will be considered in the proposed study of scientific communication in family therapy and family psychology.

Several bibliometric methods have been applied in order to study the above mentioned problems. Recently, an integrative approach has been proposed by authors such as Borgman (1990). Within this frame, the quantitative bibliometric methods are integrated in the context of a perspective of sociology and history of science. The main idea, from this point of view, concerns the objective of increasing the validity of the bibliometric approach since its reliability is usually assumed to be high. In order to accomplish that objective the use of several different methods whose results might be confronted and examined by different lines of inquiry has been proposed.

Concerning the intellectual benefits brought about by this expansion of the validity of Bibliometric methods, when used in the context of sociology and history of science, another question comes to mind: What are the potentialities of using bibliometric methods in the context of psychology? In fact, the review of the literature shows that a new line of research is already open, dealing, on one hand, with the issues of psychology of science (Simoton, 1990), and on the other hand with the motivations of the scientist (Cronin, 1982). The mentioned question links together the literatures of psychology, bibliometrics and sociology of science. Given the issues implied by the question, a future study should address it.

The literature reviewed showed that the most prominent bibliometric methods used in researching question related to

scientific communication are: citation analysis; co-citation analysis; content and context analysis of citations. Other less usual bibliometric methods used to address the same question are: word analysis; word analysis in title and patterns of acknowledgments.

### Limitations and Criticisms

The most substantial criticisms made of bibliometric methods stem from its strict quantitative nature. However, some research has pointed to the correlation between the cited frequencies of authors in diverse scientific literatures and other non-quantitative measures of scientific prominence such as awards received - e.g. Nobel prize - (Cole & Cole, 1973).

The most valid criticism to bibliometric methods come from authors within the literatures of sociology of science and bibliometrics (Edge, 1979; MacRoberts & MacRoberts, 1989). The criticisms can be divided into two categories: 1) Using only strict bibliometric quantitative measures may obscure the essential characteristics of scientific production and communication processes; 2) There are intrinsic limits in data gathering procedures.

The first line of reasoning behind the bibliometric criticism stresses the idea that the approach constitutes a set of methods that provide an aggregationistic and strictly

cumulative view of science, based on the assumption that all the citations have equal importance. In fact, citation analysis - the most important bibliometric method - tends to equalize all the scientific influences analyzed (Cronin, 1984). Some proposed alternatives implied that the scientific process should take as its smallest unit of observation the scientists behavior and their actual communication, namely in laboratory settings (Knorr-Cetina, 1983). A more technical response implied the use of content analysis and context analysis of citations (Moravcsik & Murugesan, 1975). The second line of criticism implies a set of technical improvements such as the development of software, on-line access, and information retrieval procedures. In both cases, the externalist and the internalist criticisms agree on the reliability strength of Bibliometrics methods, given the fact that they rely on non-obtrusive measurement and are easily replicated. On the other hand, they both call attention to the weak validity of the method. In order to overcome these weaknesses a multimethod approach can be used, where the results obtained with different procedures might validate - or not - each other (Borgman, 1990).



Reasons for using bibliometric and citational analysis in  
family therapy and family Psychology

Several circumstances justify the use of bibliometric methods as an adjunct approach to studying the communication processes and the emergence and dissemination of information in family therapy and family psychology.

First, there is a tradition of the use of bibliometric methods in psychology, a closely related discipline that goes back to the work of Cason and Lubovtsky (1926). However, the two literatures - i. e. psychology and bibliometrics - rarely cite each other (cf. the literature review on the subject described previously). It seems adequate to confront the conclusions achieved in that discipline with the ones specific to family therapy and family psychology, given the relative proximity of these disciplines with psychology. However, a serious caveat should be taken into consideration: the current study should integrate the potential benefits coming from the literature of bibliometrics and from sociology of science, a omission in the referred psychology literature.

Second, family therapy, and to a lesser extent family psychology, are two disciplines that evolved in magnitude.

From a sociology of science point of view, it is expected that a recursive look upon themselves takes place, after a period of emergence and consolidation. However, the research carried out along this line is sparse (cf. the review of the literature on this subject described previously). It seems that a recursive analysis of the family therapy and family psychology fields should be comprehensive, integrating diverse approaches and avoiding the trap of being caught in a merely empirical approach, such as in the case of ranking authors - and journals - using strictly as criteria the citations frequency, impact, productivity or other categories. It is my opinion that the approach proposed in this study overcomes the limits of the reported research on the subject previously described.

Third, for professionals working in a given scientific area, to gain a historical awareness of their own field's evolution might enhance the perspective through which the field is seen and, indirectly, might help to improve the relationship of each individual - researcher or clinician - with the collective entity, namely the scientific and professional community of which she/he is a member. However, this problem - which might be stated in the question: how does a historical awareness of the evolution of a given scientific field has impact on the individual scientist working in that field - has not been established as a subject of scientific inquiry. It seems reasonable to consider the possibility of an expansion of 'professional

awareness' will be achieved by the information of the referred historical and sociological contexts of evolution of the studied field.

The cumulative exponential growing process intrinsic to science (Price, 1963) and the process of scientific specialization, creates a serious problem in terms of literatures addressing the same or similar problems but remaining non-interactive. Swanson (1990) points out three situations concerning the bio-medicine literature where a bibliometric identification of logically connected but not reciprocally cited literatures, preceded the emergence of specific lines of research. That is to say that, at least in the huge 'continent' of medicine literature, there is no such thing as a 'perfect' review of the literature, given the degree of specialization and the amount of scientific information that is cumulated in a short period of time. A parallel situation happen in the family studies area in the near future. Bibliometric methods may be of a great help in dealing with this problem in the family studies area. This point is further justified by the existence of a specific family studies area database, The Inventory of Marriage and Family Literature. However, this database just lists the articles and authors that published in the journals of the field in a given period of time, and does not relate the different research questions behind the titles of the articles.

The study of dissemination and use of scientific  
Information

The study of dissemination of scientific information has been carried out at diverse levels. A distinction is usually made between the diffusion studies, which deals with the evolution of a concept or idea within and across disciplines (Borgman, 1990; Cronin & Pearson, 1991), and the dissemination process of scientific information. This later process is usually taken in a way that aims to improve the accessibility of scientific information to scientists and professionals related with a given scientific literature. In the above mentioned approach it is selected as a subject of study of the role and functioning of diverse elements, such as the profile of journals, characteristics of the articles, role and functions of journal editors, abstract services and so on (Garvey & Griffith, 1964; Garvey & Griffith, 1966; Menzel, 1966; Siegman & Griffith, 1966; Parker & Pasley, 1966; Swanson, 1966; Price & Beaver, 1966; Eichorn, 1985). The study of the dissemination of scientific information in psychology gained a special interest after the "Project on Scientific Information Exchange" was created (Garvey & Griffith, 1964). Similar studies were carried out in sociology (Crane, 1967) and communication (Parker & Pasley, 1966). A more recent research on the dissemination



of scientific and professional knowledge in Psychology (Eichorn, 1985) estimates that 45% of the APA annual budget goes into activities of dissemination of information, including the editorial and publishing services.

In the proposed study, the process of dissemination of information in family therapy and family psychology will be analyzed at the following levels:

1) Dissemination of information into a different language context- although the general assumption concerning the universality of family therapy and family psychology is well alive, the study mentioned was never done;

2) Dissemination of information via electronic communication - the emergence of electronic media of scientific and professional communication is only comparable with the emergence of the scientific journal three centuries ago (Meadows, 1974). It seems to me that the role of the organizers of electronic lists should be studied since it does not coincide entirely with the editors of the journals; a second reason to include, in the proposed study, interviews with two organizers of electronic lists organizers in the family area (i.e. Dr. Gregory Brock from Family Science electronic list and Dr. Cleveland Shields from AAMFT electronic list), is the fact that the use of this media may shift significantly the role of less scientific productive countries or world zones. All things considered, it seems reasonable to include their views on the management and potentialities of these lists.

### The context of study of scientific Controversies

The study of controversies in family therapy and family psychology is a method that integrates part of the proposed study. The main objective I want to accomplish concerns an analysis of the intellectual evolution of both fields. A second, smaller, objective concerns the possibility of creating other perspectives of analysis beyond the one achieved with the citation analysis of literatures. In this manner, the two methods would lead to results which may reciprocally validate each other, defeating one of the shortcomings of bibliometric analysis, pointed out by Borgman, (1990). While the bibliometric and citation analysis procedures will address a structural level of the literature in the analyzed disciplines, the controversies analysis will seek to understand their evolution at a content level.

The study of controversies is not confined to scientific controversies. It includes the study of controversies in the ethics and the political domains (Engelhardt & Caplan, 1987). In this line of inquiry, different contextual levels are usually taken into account. Some case examples of controversies studied by philosophers and social scientists, include the debates over the use of Laetrile in cancer treatment, the consideration of

homosexuality as a disease by the American Psychiatric Association, the exposure to toxic substances such as benzene and cotton dust in workplaces, and the use of nuclear power (Engelhardt & Caplan, 1987). Relating to the study of the process of scientific controversies two main conclusions have been achieved (Macklin, 1987):

1) Scientific controversies are generally intertwined with levels other than the strictly scientific, namely philosophical problems and value issues;

2) The scientific controversies closure is the most studied element of that process; For instance, Marret (1987) analyzed the closure of the controversy about the Three Mile Island nuclear incident;

3) Several taxonomies of controversies closure have been proposed (e.g. Beauchamp, 1987; McMullin, 1987).

The study of controversies as a process in family therapy and family psychology has not yet been done. Even if it makes sense to inaugurate this method of analysis in the referred to disciplines, it seems prudent to adopt a specific point of view other than the strict one adopted by history and sociology of science. In fact, there are several variables that the referred approaches omit, albeit possessing a great value to describe the circumstances of the controversies. I refer to the inquiry of questions such as:

1) What is the gender distribution of participants in controversies in family therapy and family psychology?

2) Which are the most frequent subjects of controversy in those fields? Are there recurrent subjects of controversy? Is there a coherent sequence of controversies?

3) Can we distinguish between factual, theoretical and principle controversies (Engelhardt & Caplan, 1987) in the evolution of the two fields?

4) Which teams of scientists are most commonly involved in controversies?

5) What seems to be the characteristic pattern of the controversies processes in those two fields ? Which similarities and which differences can we notice when we compare the studied controversies with the ones from other fields and domains?

Since the identification of controversies is the first step in the analytical work to be carried out, I intend to define controversy in a journal and editorial sense, that is, to identify as controversy every sequence of articles written in selected scientific journals, involving at least two authors or groups of authors, that were published as expression of different opinions concerning a given subject or topic. In this definition every set of articles under the category of 'Polemics', 'Rejoinder' and 'Commentary', are included. The journals selected as controversies embodiments were *Family Process* (issues from 1962 to 1992), *Journal of*



*Family Psychology* (issues from 1987 to 1992), and *Therapie Familiare* (issues from 1980 to 1994).

Controversy analysis is an approach based on the idea of the possibility of "characterization of intellectual change and developments within and about science" (Engelhardt & Caplan, 1987; pp.13). In the context of the study of scientific communication in family therapy and family psychology, controversies analysis will have three objectives: a) to complement, at the content level, the analysis of the studied fields in areas not entirely grasped by the bibliometric methods and the network analysis, namely the polemical issues in the field; b) to be used as an adjunctive method to those bibliometric and network analysis procedures, making possible the cross validation of the conclusions achieved; c) to expand the time periods under study in the bibliometric and network analysis.

The controversy analysis literature defines as specific areas of study the scientific, political and ethical contexts (Engelhardt & Caplan, 1987). However, the definition of controversy is usually based on the identification of a topic (e.g. the definition of homosexuality as a disease by the American Psychiatric Association, the risks involved with the use of nuclear power, the safety measures taken in work place) which has been already implicitly defined as polemic by the related professional community. This

definition seems a bit tautological since the usual sequence is: first, a topic or polemical research question, emerges within a specific area; it then becomes controversial in the context where it emerged; finally, it is again classified as a controversy, when it expands outside the context where it first emerged (e.g. the nuclear power uses decisions and discussions take place at a strict and close political level, no longer at the scientific level by itself). In studying the use of bibliometric methods applied to the assessment of a scientific discipline, an idea comes to mind: why not use a more parsimonious concept of scientific controversy? The argument points out that if the analysis of the literature is taken as a non-obtrusive measure of the scientific development of a given discipline, as the bibliometry and sociology of science conclude, why not adopt as a definition of scientific controversy the themes and subjects that scientific journal editors do adopt as polemical and controversial questions? of course this editorial definition of controversy only has meaning in the scientific context. However, given the unique role played by journals and journals editors in the evolution of a given scientific discipline (Cronin, 1982; Zsindely & Schubert, 1990) it seems reasonable to adopt the mentioned definition in the proposed study. In addition, it allows a quick but detailed review of the non-consensual questions in a given discipline. This

characteristic is particularly relevant in a study of scientific communication: while the bibliometric and network analysis allow the study of the consensus areas of a given discipline, controversy analysis allows the study of a set of crucial questions for the development of the same discipline.

The idea implicit in this part of the study concerns the importance that should be given to the controversies studies in science. This idea is convergent with the conclusions achieved by Dewsbury (1993) in reviewing the literature of psychology and taking as objective the analysis of the consequences of controversies for the development of the mentioned discipline. The mentioned author concluded that publishing controversy is a condition *sine qua non* for scientific development.

#### Application of network analysis to study the "Invisible College" in family therapy and family Psychology

The studies of scientific specialties have to deal with the questions concerning the relationship between the 'products' of scientific activity and their evolution (e.g. how theories, methods, ideas have evolved in a given scientific area during a specific period of time) and the

scientific community (e.g. group of scientists defined by some authors as 'invisible college') that generates those products. Generally, the study of social networks might be applied to diverse areas of the social life, such as science, religion or politics (Shrum & Muslins, 1987). The network analysis procedure takes as the first step the identification of actors involved in a specific institutional domain, and then seeks to describe and explain the relationships (e.g. linkages, ties) among them. In respect of the study of scientific specialties, one common way defining the linkage among scientists might be given by co-authorship measures, since co-authorship presupposes simultaneously cognitive and interactional exchange (Shrum & Muslins, 1987). Different speciality studies have used diverse methods and sources of data. For instance, Edge and Mulkey (1976) studied the emergence and development of Radio Astronomy using interviews, historical records, co-authorship measures and citation data. Ben-David and Collins (1966) used psychology history handbooks in order to identify the relationships between founders, students and followers of the discipline in the late nineteenth and early twentieth century in Germany, France, Britain and in the USA. A reconstruction of the history of psychology and institutionalization was achieved that way.<sup>3</sup>

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<sup>3</sup> A conclusion worth stressing refers to the "role hybridization" of methods from the problems of physiology and philosophy, in the emergence of psychology. That process is usually simultaneous with the "intellectual migration" of scientists from established areas to new disciplines (Mullins, 1976).



The network analysis of scientific fields and the study of communication among scientists (both formal and informal) led to the elaboration of models concerning the general process of emergence and consolidation of scientific specialties (Barber, 1990; Crane, 1972; Mullins 1968; Woolgar, 1976). The main hypothesis concerns the idea that the network of scientists evolves according to the disciplinary development. In agreement with Mullins (1972), the first stage corresponds to a situation where different researchers work in similar problems but with few contacts among them. The second phase corresponds to a situation where the communication exchange expands and an institutionalization process starts with the association of researchers in teams and the recruitment of students. The third phase includes the emergence of research centers led by senior researchers, while the informal communication that prevailed until then is replaced by formal relations of apprenticeship and training. In terms of formal written communication, this phase coincides with the emergence of co-authorship. Finally, a fourth phase is characterized by an expansion in the recognition process through the expansion to related institutions, journals and the emergence of a second generation of researchers.

Mulkay and Edges (1976) described the evolution of scientific disciplines from an organic solidarity among scientists, to a mechanical one. As previously mentioned,

the organic solidarity phase corresponds to a situation in which a common paradigm and research questions are shared by the members of a given scientific community. The mechanical solidarity phase corresponds to a phase in which the professional relationships among scientists reflects a situation in which the emergence of different areas of specialization took place.

Other studies related bibliometric methods with an analysis of the research funding, in what was called a triangulation methodology (Lievrouw, Rogers, Lowe & Nadel 1990). Again, the use of multiple measures decisively amplify the validity of the conclusions achieved. On the other hand, the reported research shed light into a specially decisive area: the external support (namely financial) of the development of disciplines. This idea will be followed in this study namely through the quantification of grants and awards reported in the published articles of the journals analyzed.

A major advantage of the use of the above mentioned methods consist in the nonreactive nature of the data. It also fits very well into a longitudinal approach which is necessary for the assessment of disciplinary evolution. This conclusions will be also considered in the proposed study the methods of which are described in chapter 3.

The use of the network analysis method in the study scientific communication in family therapy and family psychology will seek to achieve several goals: a) to verify and analyze the most visible lines of research; b) to cross validate the data obtained through a bibliometric and citational methodology (e.g. citations, authors and articles counts); c) to check the evolution of research themes in family therapy in a longitudinal way (i.e. comparing the observations made during the period of time that goes from 1962 to 1964 with the equivalent ones made during the period 1992-1994); d) to compare the network of questions and the groups of research between family therapy and family psychology; e) to compare the network of questions and groups of research between the English and French speaking communities of family therapists and researchers.

The network analysis to be carried out reflects the definition given by Shrum and Mullins (1988; pp.109):

" A network is a set of social actors and their relationships. Taken by itself, a network is purely a structural entity: to constitute an 'analysis' it must be combined with theoretical propositions driving the behavior and perceptions of its elements (e.g. exchanges, solidarity rituals), and with propositions specific to the institutional setting under study".

Given the definition above mentioned it is important to specify the institutional settings under study in the study.

Adjunctively, it seems also important to identify the most visible subjects of research and members of the scientific communities of family therapy and family psychology. These two communities are accessed and delimited by the use of the previously described bibliometric and citational analysis of the journals *Family Process*, *Journal of Family Psychology*, and *Therapie Familiale*. That is to say that the authors who published articles in these journals are considered members of the respective scientific communities.

Previous use of the network analysis method is mentioned both in sociology of science (Ben-David & Collins, 1966) and psychology literatures (Price & Beaver, 1966). Shrum and Mullins (1988) described the use of the network analysis in diverse scientific disciplines and technological domains. From the first of these researches I will adopt the idea of "genealogies" of research lines in a given scientific domain. Genealogies of research were defined as the succession of research topics and its dissemination among a given set of authors and co-authors. I will also adopt a procedure convergent with the mentioned concept. This procedure entitle the association of the most prolific authors in the field with the research questions most frequently referred to.



From the work reported by Price and Beavers (1966) I will adopt the procedure of definition of significant research groups, given the list of first authors and co-authors of a specific scientific field. This method allows for the identification of the line of research being pursued by co-authors of a previous article. This way, what counts in terms of analysis is the pursue of a given research question. The circumstance that a specific author might become highly prolific is secondary. However, besides the combination of the two mentioned methods, the first step of the adopted procedure will be constituted by the identification of the authors which authored or co-authored published articles at least three times in three consecutive years. Even if this empirical criteria might seem somehow arbitrary, it was proposed by Woolgar (1976) as the basis to select significant research in a given scientific discipline.

After the identification of the most significant groups of research ( and the most prolific individual authors), the second step will be constituted by the analysis of the sequence of the research questions, basically accomplished through the examination of redundancies in the list of the titles of published articles.

The network analysis described will be used in two different time contexts (i.e. 1962-1964 and 1992-1994), two

different disciplines (i.e. family therapy and family psychology) and two language communities (French and English). In considering these two time periods and language contexts, I hope to provide an account of the scientific communication development in the family therapy field and the current composition of the most significant members of its community.

Equivalent conclusions are expected in respect to family psychology, except for the longitudinal dimension, given the newness of this discipline.

Electronic media of communication in family therapy  
and family Psychology

Electronic media of communication in the scientific context created a "new order" of scholarly communication which might be compared with the invention of printing (Harnard, 1991). In fact, electronic mail, electronic journals, bulletin boards and electronic lists of scientists organized to seek a specific research questions became common during the current decade. Previous uses of electronic media of communication included the abstract and keyword searching services, and the bibliographic coupling of the references of articles.

However, the transition from conventional scientific journals to a situation in which formal scientific communication would be carried out in a paperless way is far from close. Instead, a long standing phase of co-existence of conventional (i.e. paper journals) and electronic ones is highly probable (Garfield, 1991).

The actual and anticipated advantages of the use of electronic means of communication in science (e.g. reduction of pre-publication time, easy reagregation, storage and retrieval of materials) need to be seen in the context of study of scientific communication. For instance, the features attributed to the role of conventional scientific journals editors, should be seen in the context of the possibilities created by electronic communication technologies.

The global access to the scientific literature, namely for scientists working in less industrialized countries, will be a major consequence of the use of electronic means of communication in science (Lederberg, 1993).

It seems particularly important to study current developments and challenges faced by the fields of family psychology and family therapy in what respects the use of the mentioned means of electronic communication. The need for the enhancement of the information systems in the family studies area is already existent, as might be seen by the

publication of The Inventory of Marriage and Family Literature (e.g. Touliatos, 1991).

In the family studies area, and given the simultaneous processes of literature specialization, and its exponential rate of quantitative development both the individual scientist and the active research groups need practical ways to keep in touch with the published literature.

It is my opinion that the those circumstances need to be addressed in a scientific way that is framed in the sociology of science research tradition. In that frame the comparisons between the role of the conventional journal editor and the role of the electronic list organizer and the analysis of the demographic composition of electronic list may be important for the fields development.

The methods to assess the anticipated consequences of electronic media of communication in family therapy and family psychology are described in chapter 3.



## CHAPTER 3

### METHODS

The proposed study on communication in family therapy and family psychology, accomplished through the analysis of three journals and two electronic lists, uses a multimethod approach. Given the stated limitations of each of the methods previously reviewed, a crucial idea is to use different methods whose results may cross validate each other, enhancing the convergent validity of the study. The large time scope of the study, which gathers data during diverse time periods from 1962 to 1994, also contributes to the validity of the findings.

The methods to be used in the proposed study will vary accordingly to the research questions and the specific subject of analysis. In the next paragraphs I will try to connect the methods described with the research question they seek to elucidate.

#### Bibliometric and citational Methods

The refereed methods include the quantification of a specific set of dimensions and variables gathered in the selected issues of *Family Process* (1962-1964 and 1992-1994), *Journal of Family Psychology* (1992-1994) and *Therapie*

*Familiare* (1980-1982 and 1992-1994). Specifically, the variables and dimensions selected for the bibliometric and citation analysis of the journals were: a) Number of articles published; b) Number of references per article; c) Gender of first author; d) Gender of co-authors; e) Country of first author professional address ; f) Institution where the research took place; g) Key words in the title of the articles; h) Patterns of acknowledgment; I) Origins of grants and awards.

### Network Analysis

The network analysis previously described is going to be applied to two different time contexts (1962-1964 and 1992-1994), two different disciplines (family therapy and family psychology) and two language contexts (French and English). In considering these two time periods and language contexts, I hope to provide an account of the scientific communication development in the family therapy field and the current composition of the most significant members of its community. Equivalent conclusions are expected in respect to family psychology, except for the longitudinal dimension, given the newness of this discipline.

### Controversies Analysis

In respect to the family therapy and family psychology fields, it seems more relevant to consider the following categories: a) subject of the controversy (special attention should be given to the possibility that the same controversy might appear more than once in the literature); b) participants in controversies (names and gender of participants paying again special attention to redundancies, and to the gender bias question). The category concerning the gender distribution of controversy participants may also cross validate the results achieved through the bibliometric analysis method concerning authors gender.

### Interviews with electronic lists Organizers

The interviews of two electronic lists organizers will constitute another method to examine the process of dissemination of information in family therapy and family psychology. The specific questions to be asked are listed on the appendix.

Relationship between problems addressed and methods to beUsed

The four methods described above - i.e. bibliometrics and citation analysis, network analysis, controversies analysis and interviews - will constitute a way to explore the questions defined in chapter one - e.g. the communication processes and the emergence, dissemination and use of scientific information in family therapy and family psychology. Nonetheless, it is important to specify the relationship between the issues addressed and the methods proposed and, in addition, to specify the temporal context of use of each method, given the longitudinal nature that the study implies. The question concerning the identification and assessment of basic communication processes in the fields of family therapy and family psychology will be examined through the following comparisons: a) the comparison of the bibliometric and citational data of the journals and the results of the network and controversy analysis, and, in a second level, the intersection of these data and the conclusions of the interviews of the organizers of the electronic lists; b) the comparison of bibliometric and citational data concerning the two fields (i.e. family therapy and family psychology); c) the comparison of the conclusion of the network analysis



of the two fields; d) the comparison of the conclusions of the controversies analysis in the two fields.

Concerning the question of the emergence process of the family therapy field two more comparisons are going to be carried out: a) the comparison of bibliometric and citational data in family therapy in two different time contexts (i.e. 1962-1964 and 1992-1994 issues of Family Process); b) the comparison of the bibliometric and citational data between the family therapy field and family psychology fields.

Finally, concerning the question of the dissemination of information a comparison of the citational and bibliometric data between the two language contexts will be considered (i.e. English and French).

The above mentioned time contexts were selected accordingly to a delicate balance between the availability of the specific data to be gathered and the selection of adequate and reasonable time periods, at least extensive enough to guarantee valid descriptions.

#### Data analysis Methods

The methods of data analysis will be divided in two categories: a quantitative, statistical one and a

qualitative one, accordingly to the specific problem addressed and the method used.

Regarding the bibliometric comparisons to be established (i.e. between the different journals studied, between the French and English language context of family therapy, between the disciplines of family therapy and family psychology and between the emergence and the consolidation phases of family therapy) the problem addressed and the data obtained adapt to common descriptive non-parametric statistics tests such as the Chi-square.

The same rationale applies to the study of scientific collaboration. In fact, the variables selected are easily quantifiable, and the comparisons to establish fit the conditions for the use of simple non-parametric statistics. However it should be noted that accordingly to the research questions previously mentioned, the proposed study main strength lies in its descriptive quality. Rather than define quantitative regularities in the data gathered, I intend to identify possible ways and procedures for the enhancement of the communication processes in the two mentioned disciplines. It is worth remembering Bateson's (1978) contention concerning the use of quantitative methods in science as a way of distort nature. In a similar vein, Palazzoli et al. (1989) sanctioned the idea relatively to research within the clinical psychology domain as an

activity strictly intellectual characterized essentially by a continuous flux of hypothesis making and remaking. The use of quantitative methods are secondary relatively to research questions asked and in no way intends to substitute the professional knowledge of the fields literature sources and its human community. However, as the use of a multimethod approach is a sine qua non condition of the convergent validity enhancement, the same applies to the synergetic and integrative use of quantitative and qualitative methods of data analysis. The network and controversies analysis data will be explored qualitatively given the intrinsic content of the studied problems.

## CHAPTER 4

### BIBLIOMETRIC AND CITATION ANALYSIS OF *FAMILY PROCESS*, *JOURNAL OF FAMILY PSYCHOLOGY* AND *THERAPIE FAMILIALE*

In this chapter I will describe a study of three family therapy and family psychology journals. The study includes the bibliometric and citational analysis of these journals during the following time periods:

a) *Family Process*, covering volumes 1 to 3 (corresponding to 6 issues published in the years 1962-1964) and volumes 31 to 34 (corresponding to 12 issues published in the years 1992-1994); b) *Journal of Family Psychology*, covering volumes 5 to 8 (corresponding to 10 issues published in the years from 1992 to 1994); c) *Therapie Familiare* covering volumes 1 to 3 and 13 to 15 (corresponding to the years 1980-1982 and 1992-1994, respectively).

The time periods mentioned were selected in order to entitle the study of the emergence and consolidation processes of the two disciplines and, in what respects family therapy, allowing for an analysis of the discipline evolution and dissemination in a different language context. In what respects the *Journal of Family Psychology*, the time period selected corresponds to the three first years of



edition under the responsibility of the American Psychological Association.

In this study, the emergence processes of the two disciplines is carried out through the use of methods borrowed from the bibliometry literature and research tradition (e.g. quantification of citations made, quantification of articles published, use of key words in the titles of the articles). The sociology of science research tradition is also used, namely through the quantification of author's gender, the study of institutions where the reported research took place, the study of scientific collaboration, the analysis of grants and awards, and the study of acknowledgment patterns.

The data analyzed belong to the category of archival and unobtrusive information. In fact, the main source of data is constituted by the articles published in the journals *Family Process*, *Journal of Family Psychology* and *Therapie Familiale*. It is assumed that the main characteristics of the two scientific domains under analysis are partly reflected by the examination of their leading journals. In this way, this study is in continuity with the previous usage of the journal analysis accomplished in order to study the structure of disciplines, of their

characteristics and of their development (e.g. McCain, 1991, Garfield, 1979).

*Family Process* and *Journal of Family Psychology* were selected, given the historical circumstance of being the journals that first emerged, respectively, in family therapy and family psychology. In fact, the emergence of the two disciplines can not be studied without the analysis of the characteristics and the role of those two journals since, as previous studies have demonstrated, the emergence of a new scientific journal coincides with the emergence of a new discipline (Price, 1965).

Given the timing of analysis selected (1962-1964 and 1992-1994 for family therapy and 1992-1994 for family psychology), a comparison of the emergence processes of the two disciplines, as well as a relative measure of development concerning the thirty years of evolution of family therapy (1962-1964 and 1992-1994) are proposed. This comparison will include quantitative citational data (e.g. number of articles, number of citations) and data specific to each discipline (e.g. the network of researchers and topics of research most frequently reported during the time period under analysis).

In respect to the journal *Therapie Familiale* the timing of analysis selected (1980-1982 and 1992-1994) allows the

analysis of family therapy emergence and dissemination processes in a French speaking context of family therapists and diverse researchers.

The citation analysis of the three above mentioned journals includes the quantification of the following items: a) Number of articles published; b) Average number of references per article; c) Gender of first author; d) Gender of all authors (including co-authors); e) Country of the professional address reported by the first author; f) Key words used in the titles of the articles; g) Institutions where the reported research or review of literature was carried out (e.g. the professional address of the first author); this same category is further divided into the following ones: Universities, Hospitals and Clinics, Centers and Institutes, and Private Practice.

Other quantitative citational variables allow the study of scientific collaboration in the selected fields. This is to be achieved through the quantification of the following variables:

a) Number of articles with a single author versus number of co-authored articles;

b) Institutional collaboration (whenever in a published article a co-authorship structure is observable and, simultaneously, whenever the professional addresses reported belong to different institutions);

c) International collaboration (whenever in a published article a co-authorship structure is observable and the professional addresses reported belong to institutions from different countries).

While the above mentioned variables and dimensions might be seen as a development of the tradition of research of citation analysis and of bibliometrics, the study of the acknowledgments is located within the frame of sociology of science. Usually this study is attained by taking into account the use of explicit acknowledgments made by the author (or authors). Acknowledgments are usually expressed in a footnote included in the first page of the published article. The study of the acknowledgments is based on the research published by Cronin (1991) which studied patterns of acknowledgment in use in diverse fields.

The quantification of grants and awards and their origin is also in continuity with the sociology of science tradition of research. Since the authors of scientific articles usually report the origin of financial support of the research reported, the study of that topic is here taken into account. That way, the financial and political support systems of the two disciplines in the English speaking and French speaking language contexts are expected to be made visible.



Family Process (1962-1964): Bibliometric and citation

Analysis

Number of articles Published

The total number of articles published by the journal *Family Process* in the first three years of its publishing activity was 63 (cf. Table 1). During that time period the average number of articles published was 10.5 articles per issue.

Table 1. Number of articles published per issue by *Family Process* (1962-1964).

<u>Volume, number, year</u>			<u>Number of articles published</u>
1	1	1962	11
1	2	1962	9
2	1	1963	10
2	2	1963	12
3	1	1964	12
3	2	1964	9
Total			63

### Average number of references per Article

The average number of references per article in the journal *Family Process*, not taking into account two review articles published, is shown in Table 2. A steady increase of the average number of references per article might be noticed.

Table 2. Average number of references per article in *Family Process* (1962-1964).

Volume, number, year			Average number of references per article
1,	1,	1962	3.6
1,	2,	1962	7
2,	1,	1963	10.2
2,	2,	1963	11.6
3,	1,	1964	12.3
3,	2,	1964	15.2

The average number of references per article in the first three years of the publishing activity of *Family Process* was 9.9.

### Gender of first Authors

The gender of first authors of published articles in the first three years of the publishing activity of *Family Process* was distributed in a way that 51 (81%) of first authors were male and 5 (approximately 8%) were female. In seven cases the gender of the first author was not accessible since the first name mentioned was not gender specific. (Cf. Table 3).

Table 3. Gender of first authors of articles published by *Family Process* (1962-1964).

Volume, number, year	First Author		
	Female	Male	Unknown
Volume 1, 1, 1962	0	10	1
Volume 1, 2, 1962	2	7	0
Volume 2, 1, 1963	1	8	1
Volume 2, 2, 1963	0	11	1
Volume 3, 1, 1964	1	8	3
Volume 3, 2, 1964	1	7	1
Totals	5	51	7

### Gender of authors and Co-authors

During the time period under analysis (1962-1964) the total number of authors (first authors and co-authors) of articles published by *Family Process* was 97 (Cf. Table 4). From those only 10 were female authors (10.3%).

Table 4. Gender of first authors and co-authors of articles published by *Family Process*(1962-1964).

Volume, number, year	Female	Male	Unknown
Volume 1, 1, 1962	0	12	1
Volume 1, 2, 1962	2	11	0
Volume 2, 1, 1963	2	19	1
Volume 2, 2, 1963	1	15	1
Volume 3, 1, 1964	3	11	3
Volume 3, 2, 1964	2	10	3
Totals	10	78	9

### Country of professional address reported by first Authors

In a total of 63 published articles, 57 had the USA as the country of the professional address of the first



author(90%). Five other countries were also mentioned in the first three years of publishing activity of *Family Process*: England, Israel, India, Canada and Norway (Cf. Table 5).

Table 5. Country of professional address of first authors of articles published by *Family Process* (1962-1964).

Volume, number, year	Country
Volume 1, 1, 1962	11 USA
Volume 1, 2, 1962	8 USA 1 Not stated
Volume 2, 1, 1963	9 USA 1 England
Volume 2, 2, 1963	11 USA 1 Israel
Volume 3, 1, 1964	11 USA 1 India
Volume 3, 2, 1964	7 USA 1 Canada 1 Norway

#### Institutions where the research took Place

In what respects the institutions where the research reported took place (as told by the professional addresses of the first author), Universities occupied the first place with 25 references followed by Hospitals and Clinics with a

Table 6. Institutions where the reported research took place as expressed in articles of *Family Process* (1962-1964).

	Vol.1, 1	Vol.1, 2	Vol.2, 1
Universities	Columbia; Stanford; Texas.	Columbia; Harvard; Pennsylvania -2; Temple.	Bristol (UK); Illinois; Pittsburgh.
Hospitals and Clinics	Vet. Adm., Palo Alto; PhiladelphiaPenn sylv. Psychiatric Inst.-2.	0	Vet. Adm., Palo Alto; Roosevelt Hosp., NY.
Instit. and Centers	MRI.	MRI-2.	MRI; NIMH.
Private Practice	0	1	0
Not stated	3	1	3
Total	11	9	10
	Vol.2, 2	Vol.3, 1	Vol.3,2
Universities	Michigan; Pennsylvania Utah; Washington Western Res.	California; Michigan; Minnesota; Princeton; Rutgers.	Kentucky Boston; Oslo Univ. (Norway).
Hospitals and Clinics	Philadelphia Psychiatric Inst.; Pennsylvania Psychiatric. Inst.	Pennsylvania Psychiatric Inst.	Jewish G. Hosp. (Canada); Boston State Hosp.
Instit. and Centers	NIMH.	MRI; Gray House for Children; NIMH.	0
Private Practice	1	2	1
Not stated	4	1	1
Total	12	12	9

Note: NIMH: National Institute of Mental Health; MRI: Mental Research Institute.

total of 11 references. Institutes and Centers had been mentioned 7 times. Private practice was mentioned in 5 situations. In 13 articles the professional address of the first author was not mentioned.

#### Key words in the title of Articles

In order to aggregate the articles published by *Family Process* during the time period under analysis a classificatory procedure is proposed. The method is similar to the ones used by the index system in Family Studies such as the one of the Inventory of Marriage and Family Literature, a literature database published by the National Council of Family Relations (NCFR), that employs the Key Word In Title (KWIT) classification method. The classificatory system published by the American Psychological Association, in the *Psychological Abstracts* volumes is also similar to the one used here. In essence it consists of selecting a word that expresses a concept evaluated as essential in a given scientific domain. This method allows the identification of the main lines of research in the discipline, and enhances its network analysis.

Table 7. Key words in the title of the articles in *Family Process* (1962-1964).

Vol.1, 1	Vol.1, 2	Vol.2, 1
<b>Family/ies</b> Therapy-3; Treatment-4; Psychotherapy-3.	<b>Family/ies</b> Extended; Experiments Crisis.	<b>Family/ies</b> Therapy-3; Structure; Group Therapy -2 Transaction.
<b>Diagnostic Categories</b>  Schizophrenia-6.	<b>Couples/ Marital-3.</b>	<b>Diagnostic Categories</b> Family Diagnostic; Schizophrenia.
	<b>Concepts</b> Communication; Group Therapy.	<b>Concepts</b> Psychotherapy; Double-bind.
	Marriage and Counseling.	
Vol.2, 2	Vol.3, 1	Vol.3, 2
<b>Family/ies</b>  Research; Strength; Incomplete; Equilibrium Rorschach; Rejection.	<b>Family/ies</b> Therapy-2; Patterns; Stability; Functioning Development Research.	<b>Family/ies</b> Conflict Investigation; Resistance; Research.
<b>Diagnostic Categories</b> Family Diagnostic; Schizophrenia.		<b>Diagnostic Categories</b>  Schizophrenia -3.



As might be noticed (Cf. Table 7) the categories most used in the titles of the articles were Family/(ies) (e.g. Family Therapy, Family Treatment, Family Psychotherapy) and Diagnostic Categories (e.g. Schizophrenia).

Study of scientific collaboration in *Family Process*

(1962-1964)

The study of scientific collaboration in family therapy is here accomplished by the quantification and analysis of three dimensions related to the publishing activity of a given scientific journal, in the case under analysis the journal *Family Process* (1962-1964). The dimensions (and variables) selected in order to study the scientific collaboration in the process of emergence of family therapy, as shown by the three first years of publication of *Family Process* are:

a) Percentage of individual authors versus co-authored articles;

b) Institutional collaboration revealed by the links implicit in the co-authored articles whose authors belong to different institutions;

c) International collaboration, as shown by co-authored articles whose authors express institutions from different countries as professional address.

The results of the analysis of collaboration exposed in the published activity of *Family Process* are the ones expressed in Tables 8 (co-authorship), 9 (collaboration among institutions), and 10 (international collaboration).

In terms of the percentage of single versus co-authored articles, 71% of the articles had one author (Cf. Table 8). Three cases of institutional collaboration were observed involving 7 institutions (Cf. Table 9). International collaboration, as defined by the co-authorship of articles written by authors whose professional addresses belong to different countries, was not observed during the time period under analysis.

Table 8. Number of individual authored articles and co-authored articles in *Family Process* (1962-1964).

	Vol.1, 1	Vol.1, 2	Vol.2, 1	Vol.2, 2	Vol.3, 1	Vol.3, 2
One author	10	6	5	9	10	5
2 authors	0	2	4	1	1	4
3 authors	1	1	0	2	1	0
4 authors	0	0	0	0	0	0
5 authors	0	0	1	0	0	0
6 authors	0	0	0	0	0	0
Total	11	9	10	12	12	9

Table 9. Scientific institutional collaboration: Different professional addresses of co-authored articles in *Family Process* (1962-1964).

Vol.1, 1	Vol.1,2	Vol.2, 1	Vol.2, 2	Vol.3, 1	Vol.3, 2
0	0	Univ. Pittsburgh and Child Psychiatric Clinic (S. Francisco) and Hosp. General- Washington DC.	0	0	Univ. Kentucky and John Umstead Hosp., North Carolina; Boston State Hosp. and Harvard Medical School.

Table 10. Scientific international collaboration: Professional addresses of authors from different countries of co-authored articles in *Family Process* (1962-1964).

Vol.1, 1	Vol.1, 2	Vol.2, 1	Vol.2, 2	Vol.3, 1	Vol.3, 2
0	0	0	0	0	0 (a)

(a)  
Acknowledgments to 16 people (not co-authors) in Sweden and Finland were made in one article.

Patterns of Acknowledgment

In terms of the patterns of acknowledgment used by authors of articles published by *Family Process* (1962-1964), a total of 11 acknowledgments were observed, involving 48

people. The content of the acknowledgment in every case reported refers to support given to the research (Cf. Table 11).

Table 11. Patterns of acknowledgment observed in *Family Process* articles (1962-1964).

Volume	Number of acknowledgments	Acknowledgment content: To whom? For what?
Vol.1, 1	1	1 person for participation in all phases of the project.
Vol.1, 2	1	5 people for collaboration.
Vol.2, 1	2	1. 8 people for help; 2. 2 people for assistance and 2 reviewers for suggestions.
Vol.2, 2	3	1. 3 people who served as advisors; 2. 3 people who conducted interviews; 3. 1 person for aid and encouragement.
Vol.3, 1	2	1. 16 people in Sweden and Finland for: Gathering data, generous cooperation, supplying information, statistical advice, help and advice; 2. 1 person for accompanying the study.
Vol. 3, 2	2	1. 1 person for critical reading; 2. 7 people for collecting data.
Total	11	48 people;



## Grants and Awards

A total of 22 grants were reported in the first three years of publication of *Family Process*. From that number, 14 were originated in the National Institute of Mental Health (63 %). The National Institute for Health (NIH), the National Science Foundation (NSF), and the US Army also contributed to the list of Federal institutions supporting family therapy research. Other financial support for family therapy research comes from private institutions such as foundations including the Hogg Foundation and the James Mckeen Cattell Foundation. Private institutions contributed with 10% of support for the research reported in *Family Process* 1962-1964 (Cf. Table 12).

Table 12. Number and origin of grants and awards reported in the articles of *Family Process* (1962 -1964).

Volume, Number	Number of grants and awards	Origin of grants and awards
Vol.1, 1	5 (4 from NIMH and 1 from a private institution).	4 NIMH (2 Family treatment Schizophrenia in the home; Study of Schizophrenia Communication; Mental Health Project).

Continued, next page.

Table 12. Continued.

Vol.1, 2	3	1. Hogg Foundation; 2 NIMH (study of schizophrenic communication and one more); 1. Commonwealth of Pennsylvania (alcoholism and marital conflict study).
Vol.2, 1	3 (2 NIMH; 1 private institution).	2 NIMH (Family centered treatment of schizophrenia and other); 1 James McKeen Cattell Fund.
Vol.2, 2	3 (all from NIHM).	3 NIMH (Family treatment of schizophrenia at home and 2 more).
Vol.3, 1	6 (3 from NIMH; 1 from NSF; 1 from US Army Medical and Research Command.	3 NIMH; 1 US Army; 1 NSF; 1 NIH.
Vol.3, 2	2	1 NSF; 1 Ampex Foundation.
TOTAL	22	

Family Process (1992-1994): Bibliometric and citation  
Analysis

Number of articles Published

*Family Process* published a total of 103 articles from  
1992 to 1994. (Cf. Table 13).

Table 13. Number of articles published per issue in *Family Process* (1992-1994).

Volume, number, year			Number of articles published
31,	1,	1992	6
31,	2,	1992	10
31,	3,	1992	8
31,	4,	1992	8
32,	1,	1993	9
32,	2,	1993	11
32,	3,	1993	8
32,	4,	1993	8
33,	1,	1994	10
33,	2,	1994	7
33,	3,	1994	9
33,	4,	1994	9
Total			103

#### Average number of references per Article

The average number of references per article published by the journal *Family Process* during the time period from 1992 to 1994 was 34.4 (Cf. Table 14).

Table 14. Average number of references per article in *Family Process* (1992-1994).

Volume, number, year			Average number of references per article
31,	1,	1992	36.1
31,	2,	1992	25.1
31,	3,	1992	39
31,	4,	1992	32.5
32,	1,	1993	36.1
32,	2,	1993	34.6
32,	3,	1993	31.4
32,	4,	1993	38.1
33,	1,	1994	32
33,	2,	1994	34
33,	3,	1994	35.5
33,	4,	1994	38.6

#### Gender of first Authors

The first authors of the articles published were males in 56 cases (54%) and females in 37 (36%) (Cf. Table 15). In 10 situations either the given name of the first author was



not stated or it could not be classified in terms of gender categories.

Table 15. Gender of first authors of articles published by *Family Process* (1992-1994).

Volume, number, year			Female	Male	Unknown
31,	1,	1992	2	2	2
31,	2,	1992	3	6	1
31,	3,	1992	1	5	2
31,	4,	1992	1	6	1
32,	1,	1993	5	4	0
32,	2,	1993	4	6	1
32,	3,	1993	2	5	1
32,	4,	1993	1	5	2
33,	1,	1994	4	6	0
33,	2,	1994	3	4	0
33,	3,	1994	5	4	0
33,	4,	1994	6	3	0
TOTALS			37	56	10

#### Gender of authors and Co-authors

The total number of authors and co-authors of articles published by *Family Process* (1992-1994) was 212. From this total 114 (54%) were male authors, 81 (38%) female authors,

and in 17 (8%) cases it was not possible to infer the author gender from the name (Cf. Table 16).

Table 16. Gender of first authors and co-authors of articles published by *Family Process* (1992-1994).

Volume, number, year.			Female	Male	Unknown
31,	1,	1992	4	3	3
31,	2,	1992	10	8	0
31,	3,	1992	2	16	5
31,	4,	1992	8	15	1
32,	1,	1993	6	10	0
32,	2,	1993	5	9	3
32,	3,	1993	5	11	1
32,	4,	1993	2	7	2
33,	1,	1994	8	11	1
33,	2,	1994	9	4	0
33,	3,	1994	15	10	0
33,	4,	1994	7	10	1
TOTALS			81	114	17

#### Country of professional address reported by first Authors

From the 103 articles published, 77 had the USA as the country of professional address of the first author (75%).

The other countries also represented were Norway, Israel (4 mentions each), Canada (3 mentions), Italy (2 mentions) and Finland, Australia and Switzerland (one mention each). (Cf. Table 17).

Table 17. Country of professional address of first authors of articles published by *Family Process* (1992-1994).

<u>Volume, number, year</u>	<u>Country</u>
31,1,1992	USA-4; Israel; Norway.
31,2,1992	USA-5; Italy; Germany.
31,3,1992	USA-6; Israel.
31,4,1992	USA-6; Japan; Germany.
32,1,1993	USA-5; Italy; Israel; Australia.
32,2,1993	USA-7; Canada-2; Israel; Norway.
32,3,1993	USA-7; Switzerland.
32,4,1993	USA-8.
33,1,1994	USA-8; Finland; Canada.
33,2,1994	USA-5; Australia; Norway.
33,3,1994	USA-7; Norway; Italy.
33,4,1994	USA-9.

#### Institutions where the research took Place

Universities were mentioned in 53 cases (51%) as the professional address of the first author. Institutes and

Centers with 16 mentions (15%), and Private Practice with 11 (corresponding to 10% of all references) followed as settings where the research reported presumably took place. Hospitals and Clinics were mentioned 8 times. In 11 situations either the professional address of first author was not stated or its mention could not be classified within the categories selected.

Table 18. Institutions where the reported research took place as expressed in articles of *Family Process* (1992-1994).

	Vol. 31,1	Vol. 31,2	Vol. 31,3	Vol.31, 4
Univ.	Rochester-2; Haifa(Israel) Oslo (Norway).	Syracuse; Marbourg (Germany); East Carolina.	California (S.Francisco)-3.	Gakugei (Japan); Arizona; California (S.Francisco)-2; Berlin Freie U.(Germany).

Continued, next page.



Table 18. Continued.

	Vol. 31,1	Vol. 31,2	Vol. 31,3	Vol.31, 4
Hospitals and Clinics	Philadelphia Child Guidance Clinic.		NY Hospital (Cornell Medical Center).	VA- Palo Alto.
Institutes and Centers	Cambridge Family Institute.	Harlem Psychiatric Center; Milanese Center; Eastfield Ming Quong.	Ackerman Institute; Berkshire Medical Center.	MRI; Phoenix Institute.
Private Practice	0	1	0	0
Not stated	0	3	1	1
Other	0	0	Israel Defense Forces.	0
	Vol.32,1	Vol.32,2	Vol.32,3	Vol.32,4
Univ.	New South Wales (Australia); California(S. Francisco)-2; Texas; UCLA.	Albany Medical College; Northern Illinois; Toronto (Canada); Oregon.	Rochester; Nova; UCLA; San Diego.	UCLA-2.

Continued, next page.

Table 18. Continued.

	Vol.32,1	Vol.32,2	Vol.32,3	Vol.32,4
Hospitals and Clinics	Kibbutz Child and Family Clinic (Israel).	Kibbutz Child and Family Clinic (Israel) Nat. Hospital of Norway.	First Hospital of Valejo CA; Psychiatrische Poliklinik (Switzerland).	0
Institutes and Centers	Menninger Foundation;	Ackerman Institute.	0	Ackerman Institute; Judge Baker Center MA.
Private Practice	1	Family Studies Inc. NY; 1 individual.	2	1
Not stated	1	1	0	1
Other	0	Research Council of Norway.	0	Family Loss Project MA.
	Vol. 33,1	Vol.33,2	Vol.33,3	Vol.33,4
Univ.	Brown; Jyvaskyla (Finland); Washington WA 2; Ontario (Canada); Rhode Island.	Minnesota; Rutgers; Auckland (New Zealand); Bergen (Norway); Colorado.	Oslo (Norway); Texas Tech; Minnesota-2; California- S. Francisco; Rome (Italy).	George Washington; UCLA-2; Oregon State; Boston College; Haifa (Israel); Missouri Western State College; Minnesota.

Continued, next page.

Table 18. Continued.

	Vol. 33,1	Vol.33,2	Vol.33,3	Vol.33,4
Hospitals and Clinics	0	0	0	0
Institutes and Centers	Ackerman Institute.	Bronx Psychiatric Center.	Ackerman Institute- 2.	0
Private Practice	1; Family Studies Inc.NY.	Focus Counseling & Consultation Inc.	Bay Area FT Training Associates.	0
Not Stated	1	0	1	1
Other	0	0	0	0

Key words in the title of Articles

From the classificatory system used involving the observation and selection of key words in the title of the articles published (Cf. Table 19) and defined previously, the most frequent category observed was Family/ies. The following categories - from the most frequent to the less - were also observed: Concepts, Marital/Couples, Methods, Diagnostic Categories, and Social Relationships.

Table 19. Key words in the title of the articles in *Family Process* (1992-1994).

Vol. 31,1	Vol. 31,2	Vol. 31,3
<b>Family (ies)</b>	<b>Family (ies)</b>	<b>Family (ies)</b>
-Theory, therapy and illness; -Interaction and caregivers; -Interaction during SCUD missile attacks.	-In home treatment of adolescents crisis; -Rituals across two generations.	-World view; -Emotion management; -From front line to home front; -Behavioral problems of sons of absent fathers.
<b>Concepts</b>	<b>Diagnostic categories</b>	<b>Concepts</b>
-Intimate and non-intimate interaction in therapy; -"Good enough" separation.	-Panic disorder; -Expressed emotion in depressed patients.	-Combining ideas from feminism and social constructionism; -Narrative changes in therapy; -Adult health.
<b>Methods</b>	<b>Concepts</b>	
-Scoring procedure for the Kvebaek Family Sculpture technique.	- Loop of past present and future in systemic therapy.	
	<b>Methods</b>	
	- Therapist ratings of fundamentalists and non fundamentalists families.	

Continued, next page.



Table 19. Continued.

Vol. 31,4	Vol. 32,1	Vol. 32,2
<p><b>Family (ies)</b></p> <ul style="list-style-type: none"> <li>-Therapy with Japanese families;</li> <li>-Families with adolescents;</li> <li>-Structure and organization;</li> <li>-Problem solving.</li> </ul> <p><b>Marital/Couples</b></p> <ul style="list-style-type: none"> <li>-Projective identification;</li> <li>-Similarity in marital relationships.</li> </ul> <p><b>Social relationships</b></p> <ul style="list-style-type: none"> <li>-Psychosocial adjustment of adolescent cancer survivors.</li> </ul> <p><b>Diagnostic categories</b></p> <ul style="list-style-type: none"> <li>- Depressive patients view of therapeutic systems.</li> </ul>	<p><b>Family (ies)</b></p> <ul style="list-style-type: none"> <li>-Task generated interactional patterns in families of schizophrenic patients.</li> </ul> <p><b>Marital/Couples</b></p> <ul style="list-style-type: none"> <li>-Physical violence.</li> </ul> <p><b>Social relationships</b></p> <ul style="list-style-type: none"> <li>-Transition to young adulthood.</li> </ul> <p><b>Concepts</b></p> <ul style="list-style-type: none"> <li>-Foulcault's ideas and "power" in FT;</li> <li>-Divorce in the Kibbutz;</li> <li>-Attachment and the emotional unit.</li> </ul> <p><b>Methods</b></p> <ul style="list-style-type: none"> <li>-Spatial concept for measuring cohesion and hierarchy.</li> </ul>	<p><b>Family (ies)</b></p> <ul style="list-style-type: none"> <li>-Social support for families with children with special health needs.</li> </ul> <p><b>Diagnostic categories</b></p> <ul style="list-style-type: none"> <li>-Relational diagnostic;</li> <li>-DSM-IV and describing problems in FT.</li> </ul> <p><b>Concepts</b></p> <ul style="list-style-type: none"> <li>-Hierarchy-4;</li> <li>-Disordered communication and grieving;</li> <li>-Confirmatory/disconfirmatory communication and prediction of children psychopathology;</li> <li>-Ecosystemic training.</li> </ul> <p><b>Methods</b></p> <ul style="list-style-type: none"> <li>-Measures of cohesion and closeness.</li> </ul>

Continued, next page.

Table 19. Continued.

Vol. 32, 3

Vol. 32, 4

Vol. 33, 1

**Family(ies)**  
 -Beyond the  
 "Psychosomatic  
 Family";  
 -Use of Family Play  
 Therapy;  
 -Use of enthymemes  
 for family  
 therapists.

**Marital/Couples**  
 -Couples therapy  
 using construct  
 differentiation.

**Social  
 relationships**  
 -Maternal  
 interaction style  
 ineffective  
 disordered,  
 physically ill and  
 normal women.

**Concepts**  
 -Dropping out of  
 marriage and family  
 therapy.

**Diagnostic  
 categories**  
 -Family transitions  
 and developmental  
 process in panic-  
 disordered patients.

**Family(ies)**  
 -Loss and family  
 development.

**Social  
 relationships**  
 -Tales of the  
 "Absent Father".

**Concepts**  
 -Awareness of own  
 expressed emotion.

**Diagnostic  
 categories**  
 -Maniac-depressive  
 disorder-4.

**Methods**  
 -Circumplex and  
 curvilinear  
 functions.

**Family(ies)**  
 -Misuse and use of  
 science in family  
 therapy.

**Marital/Couples**  
 -Time and rhythm in  
 couples.

**Social  
 relationships**  
 -Domestic violence-  
 4;  
 -Communication  
 deviances and  
 clarity in mothers  
 of normal achieving  
 and learning-  
 disabled boys.

**Concepts**  
 -Hierarchy;  
 -Post-modern  
 analysis of therapy.

**Methods**  
 -Development of a  
 clinical rating  
 scale for the  
 McMaster model.

Continued, next page.

Table 19. Continued.

Vol. 33,2	Vol. 33,3	Vol. 33,4
<p><b>Family (ies)</b> -Adoptive family system dynamic.</p> <p><b>Social relationships</b> -Adult attachment style.</p> <p><b>Concepts</b> -Asthma power and therapeutic conversation; -The geometry of the eternal triangle.</p> <p><b>Methods</b> -FACES in a Norwegian sample; -Self-report measures of family functioning.</p>	<p><b>Family (ies)</b> -Therapy with refugee families; -Treating the sexually abused child.</p> <p><b>Marital/Couples</b> -God in the marital system of religious couples.</p> <p><b>Concepts</b> -Narrative multiplicity; -Using a narrative metaphor; -Levels of meaning in family stress theory.</p> <p><b>Diagnostic categories</b> -Perceptions of living with Alzheimer's disease.</p> <p><b>Methods</b> -Sculpting present and future in psychosomatic families.</p>	<p><b>Family (ies)</b> -Relatives' perception of interaction with a schizophrenic family member; -Control patterns and expressed emotion in families of people with schizophrenia and bipolar disorder; -Coalitions and family problem solving.</p> <p><b>Marital/Couples</b> -Screening for physical violence in couples therapy.</p> <p><b>Social relationships</b> -Video-home project.</p> <p><b>Concepts</b> -Moratorium on curvilinearity-3.</p>

Study of scientific collaboration in *Family Process*  
(1992-1994)

The study of scientific collaboration as made explicit by the authors that published articles in *Family Process* from 1992 to 1994 included the individual percentages of authored and co-authored articles (Cf. Table 20), the observation of institutional collaboration (Cf. Table 21) and the examination of international collaboration (Cf. Table 22). In what respects the percentage of single authored articles over the total number of published articles, 44 authors published articles alone (42,7%). Institutional collaboration was observed in 12 occasions. The institutions most frequently mentioned as involved in scientific collaboration were the University of California-St.Francisco and the Texas Technical University. International collaboration was observed 3 times, that is, 5% of the research reported directly emerged from international scientific links between authors working in different countries. As might be expected from the observation of the countries of professional address of first authors (Cf. Table 17), the scientific partnership involved USA and Norway, USA and Israel, and also England and Japan.



Table 20. Number of individual authored and co-authored articles in *Family Process* (1992-1994).

	Vol. 31,1	Vol. 31,2	Vol. 31,3	Vol. 31,4
1 author	3	6	4	1
2 authors	2	2	0	3
3 authors	1	1	1	1
4 authors	0	0	1	2
5 authors	0	1	1	0
6 authors	0	0	0	1
>6 authors	0	0	1	0

	Vol. 32,1	Vol. 32,2	Vol. 32,3	Vol. 32,4
1 author	3	9	3	6
2 authors	4	1	3	1
3 authors	2	0	2	1
4 authors	0	1	0	0
5 authors	0	0	0	0
6 authors	0	0	0	0
>6 authors	0	0	0	0

Continued, next page.

Table 20. Continued.

	Vol. 33,1	Vol. 33,2	Vol. 33,3	Vol. 33,4
1 author	7	3	0	3
2 authors	1	3	6	3
3 authors	0	0	2	3
4 authors	0	1	0	0
5 authors	1	0	0	0
6 authors	0	0	0	0
>6 authors	1	0	1	0

Table 21. Scientific institutional collaboration: Different professional addresses of co-authored articles in *Family Process* (1992-1994).

Vol. 31,1	Vol. 31,2	Vol.31,3
1. Univ. of Rochester and Yeshiva Univ.	0	1. Univ. of California-S. Francisco and New York Univ.; 2. Univ. of California-S. Francisco and Merrithew Memorial Hospital, CA.

Continued, next page.

Table 21. Continued.

Vol. 31,4	Vol.32,1	Vol. 32,2
1. Univ. of Arizona and Texas Tech Univ. and Univ. of Georgia; 2. Palo Alto Veterans Administration Medical Center and Memorial Sloan- Kettering Cancer Center, NY and St. Luke's Medical Center, Chicago, IL.; 3.Univ. California- S. Francisco and Univ. of Texas-San Antonio.	0	1. York Univ., Toronto, Canada and Bayview Regional Cancer Clinic, ON, Canada.
Vol. 32,3	Vol. 32,4	Vol. 33,1
1. First Hospital of Vallejo, CA, and Tripler Army Medical Center, Honolulu, and Washington Univ.; 2. Univ. of S. Diego and Purdue Univ.	0	1.Brown Univ. and Nova Univ. and Wellesley College MA, and McMaster Univ.

Continued, next page.

Table 21 Continued.

Vol. 33,2	Vol. 33,3	Vol. 33,4
1. Focus Counseling & Consultation and Suffolk Univ.;	1. Texas Tech Univ. and Brigham Young Univ.	1. Missouri Western State College and Florida State Univ.
2. Univ. of Minnesota and Univ. of Texas at Austin.		

Table 22. Scientific international collaboration:  
Professional addressès of authors from diffrent countries of  
co-authored articles in *Family Process* (1992-1994).

Vol. 31,1	Vol.31,2	Vol. 31,3
0	0	0
Vol. 31,4	Vol. 32,1	Vol. 32,2
1. Tokyo Gakugei Univ. (Japan) and King George Hospital, Ilford, England.		1. Univ. of Oslo (Norway) and Univ. of Rochester.
Vol. 32,3	Vol. 32,4	Vol. 33,1
0	0	0
Vol.33,2	Vol. 33,3	Vol. 33,4
0	0	1. Standford Univ. and Haifa Univ. (Israel).



## Patterns of Acknowledgment

A total of 45 acknowledgments were observed in *Family Process* articles from 1992 to 1994 (Cf. Table 23). At least 104 people were specifically and nominally appreciated for diverse contributions in the research reported. Reviewers of the articles were the people most frequently acknowledged.

Table 23. Patterns of acknowledgment observed in *Family Process* articles (1992-1994).

Volume, number, year.	Number of acknowledgments	Acknowledgments content: To whom? For what?
Vol. 31,1 1992	5	1. "I would like to thank 6 people, my anonymous reviewers for their helpful comments, and two people for their careful coding of the videotapes". 2. "We wish to thank 4 people for their assistance in interviewing families and 1 person in preparing the manuscript". 3. "I would like to acknowledge helpful conversations with 5 people and several clients about ideas in this article". 4. "Special appreciation is offered the family members described, for the pleasure of learning much from them". 5. "The authors thank 1 person for supportive interest and 1 person for the programming the first version of SCULPTURE".

Continued, next page.

Table 23. Continued.

Volume, number, year.	Number of acknowledgments	Acknowledgments content: To whom? For what?
Vol.31,2, 1992	2	<p>1." The author wishes to thank 3 people, and anonymous reviewers for their helpful comments".</p> <p>2."The author gratefully acknowledges the continuing support from members of the staff of the Center for family research, George Washington Univ., under the direction of David Reiss, M.D.".</p>
Vol. 31,3, 1992	5	<p>1." I wish to thank 4 people for their useful suggestions".</p> <p>2." I wish to thank 3 people and many other colleagues who contributed useful suggestions to this essay".</p> <p>3." Appreciation is expressed to 1 person for his major contributions at an earlier stage of this research. Further we thank the reviewers of the seven articles in this series for their thoughtful and constructive comments. We are specially grateful to Dr. Peter Steinglass, Editor of <i>Family Process</i>, for providing us with the opportunity to publish this research as an integrated series of reports".</p> <p>4. Idem.</p> <p>5. Idem.</p>
Vol. 31,4, 1992	6	<p>1."The authors wish to thank 2 people for their clinical supervision of the cases described in this article".</p> <p>2."The author wishes to acknowledge the helpful feedback of 4 people and the staff of the Phoenix Institute".</p> <p>3."Special thanks to 2 people".</p> <p>4."We gratefully acknowledge the assistance of 6 people and all the members of the Department of Pediatrics at the Memorial Sloan-Kettering Cancer Center".</p> <p>5.The same acknowledgment mentioned on vol.31,3, number 4 and 5. 6.Idem.</p>

Continued, next page.

Table 23 Continued.

Volume, number, year.	Number of acknowledgments	Acknowledgments content: To whom? For what?
Vol.32,1 1993	5	<p>1."The author wishes to thank 2 people for their contributions to this study and for their counseling in clinical interventions. She also thanks 2 people for their initial contribution".</p> <p>2. Same acknowledgment as the one mentioned in vol. 31,3 number 4 and 5.</p> <p>3. Idem.</p> <p>4. "The authors wish to thank 3 people for their comments on earlier versions of this manuscript".</p> <p>5."The authors gratefully acknowledge the dedicated efforts of 2 people in the coding of Affective style data and 3 people in the coding of role structure data. The authors would also like to thank 3 people for preparation of the manuscript, statistical consultation and theoretical guidance and support".</p>
Vol. 32,2 1993	3	<p>1." I'm grateful to 5 people from ELEM (Youth in Distress), together with the staff from the Youth Protection Authority, and the staff of Probation service in Jerusalem. Two people made a singular contribution and 3 people and others who can not be mentioned here helped to implement the family model in the Youth Protection Agency.</p> <p>Special thanks to Salvador Minuchin for sharing his inspiring work in the New York's social service sysyem and supporting my work, sometimes serving as an overseas consultant, at other times coming to Israel to teach and lobby on bhalf of families".</p> <p>2. "Essential contributions to this work have been provided by 12 people".</p> <p>3. "Special thanks to 2 people for their ideas and reactions to an earlies draft of the manuscript".</p>

Continued next page.

Table 23. Continued.

Vol.32,3 1993	4	<p>1."The author wishes to thank the following colleagues for their comments and criticisms: names of 9 people".</p> <p>2."The authors would like to thank 2 people for their inspiration in preparing the manuscript, and the staff at the Catskill Family Institute for their ongoing commitment to helping people change".</p> <p>3."The author wishes to thank 4 people for their helpful comments".</p> <p>4."We are grateful for the contributions of 6 people".</p>
Vol.32,4 1994	2	<p>1." The author wishes to thank 5 people for their helpful comments".</p> <p>2." The authors gratefully acknowledge the dedicated efforts of 1 person in the collection of the Camberwell Family Interview data, 2 people in the coding of the Five Minute Speech Sample data. The authors would also like to thank 1 person for assisting in the preparation of the manuscript, and 1 person for valuable statistical consultation".</p>
Vol. 33,1 1994	2	<p>1."I would like to thank Julie Hirschfeld, Salvador Minuchin and three anonymous reviewers for their useful suggestions on earlier versions of the manuscript".</p> <p>2."I wish to thank 4 people for their helpful comments in the preparation of this manuscript".</p>

Continued, next page.



Table 23. Continued.

Vol. 33,2. 4

1."Especially important contributions were made by the following: names of 10 people. Three anonymous reviewers made helpful suggestions about how we could improve the manuscript. Most importantly, we thank adoptive parents, adopted children, and birthmothers who opened up their lives and their histories to us. We also thank the staff members of the 35 adoption agencies who identified families, requested their participation for us, and performed many of the interviews".

2."The author appreciates the thoughtful and useful comments made by the reviewers on earlier versions of this article".

3."I am grateful to (funding institution) and to the participants who, through their conversations, helped make the discoveries in this article.  
Thanks also to my colleagues and friends: names of 2 people; to members of the Auckland University Discourse Research Group - 3 people - who read the manuscript, made constructive comments, provided encouragement and gave generously of their time and ideas; and 2 people whose assistance made this research possible";

4."I gratefully acknowledge the assistance of 1 person in the data analysis, and 1 person for her generous help throughout all phases of the study".

Continued, next page.

Table 23.  
Continued.

1. "We would like to thank the Ackerman Institute for supporting this project over the past two years".

2. "The authors would like to thank 4 people for constructive comments on previous drafts of this article".

3. "We would like to thank 5 people for their thoughtful comments on an earlier draft of this article".

4. "We express our appreciation to 2 people for their helpful suggestions".

5. "The authors acknowledge the contributions to this project of 4 people".

Vol. 33, 4  
1994

6

1. "I thank 5 people for their helpful comments and 2 people for their assistance in manuscript preparation.

2. Same acknowledgment as stated in Vol. 32, 3, number 3.

3. "I wish to thank 3 people for their helpful advice and the use of their data, and 2 people for their assistance in coding transcripts".

4. "The authors are grateful for the assistance of the staff of the Oregon Social Learning Center.

5. "It is a pleasure to acknowledge the contribution made by members of the Family Research Laboratory Seminar, the Latino Mental Health Clinic at the Cambridge Hospital, and the Family Violence Therapy Center of the Bershires in the revision of this article".

6. "Gratitude is expressed to the Social Welfare Ministry, to the regional Orion coordinators, and to the social welfare workers whose devotion made this evaluation possible".

## Grants and Awards

During the period under study 49 references to sponsoring institutions and programs were detected (Cf. Table 24 and Table 25). From that figure, 28 were constituted by Federal institutions and programs (57%). The National Institute for Mental Health was mentioned 23 times, accounting with 46% of the support of the research reported. Private foundations and legacies were mentioned 15 times, contributing with 30% of the support for the research reported. The third major type of support for research were constituted by specific research councils and departments from governments other than the USA (5 mentions corresponding to 10% of support).

Table 24. Number and origin of grants and awards reported in the articles of *Family Process* (1992-1994).

Volume, number	Amount of grants and awards	Origins of grants and awards
Vol.31,1	5	1. Blue Cross/Blue Shields Health Services Research Committee; 2. Pew Memorial Trust/Families of Divorce Project; 3. Norwegian Council for Science and the Humanities; 4. Norma and Leon Hess legacy for support of rheumatismatological research; 5. Solveig and Johan P. Sommer Foundation for advancement of psychiatric research.

Continued, next page.

Table 24. Continued.

Vol.31,2	1	1. Volkswagen-Stiftung, Hanover, Germany.
Vol.31,3	6	1. NIMH grant 38468, referred 3 times; 2. NIMH (# ROI MH 46383-01); 3. Israel Ministry of Health's Chief; 4. Israel Ministry of Defense.
Vol.31,4	7	1. NIMH (MH39899); 2. NIMH (MH18262); 3. Andre and Bella Meyer Foundation; 4. Leukemia Society of America; 5. National Cancer Institute Training Grant (# CA09461); 6. NIMH (38468), named twice.
Vol.32,1	6	1. NIMH (38468); 2. Univ. Research Institute (URI); 3. NIMH (MH08744; MH30911; MH37705; MH 14584).
Vol.32,2	6	1. NIMH (MH22836); 2. Research Council of Norway; 3. Scandinavia, Inc.; 4. Norwegian Council for science and the Humanities; 5. Norma and Leon's Hess legacy for support of rheumatological research; 6. Solveig and Joham P. Sommer's Foundation for the Advancement of Psychiatric Research.
Vol.32,3	2	1. William T. Grant Foundation; 2. Medical College of Georgia Research Foundation.
Vol.32,4	1	1. NIMH (MH 0874; MH30911; MH37705;MH14584; Mh145484).

Continued, next page.



Table 24. Continued.

Vol.33,1	5	1.NIMH (PHST32MH18915; MH37952-06); 2. Firan Foundation; 3. NIMH Research Career Development Award; 4. Two NIMH grants.
Vol.33,2	6	1.Office of Population Affairs; 2.U.S. Department of Health and Human Services; 3.National Institute of Child Health and Human Development; 4.Hogg Foundation for Mental Health; 5. Univ. of Texas-Austin;6.Health Council research of New Zealand;Norwegian Council for Science and the Humanities.
Vol.33,3	4	1.Ackerman Institute; 2.National Institute on Disability and Rehabilitation; 3. Department of Health Services-California; 4.NIMH Research Scientists award.
Vol.33,4	11	1.NIMH (MH43373; MH48825);2. William T. Grant Foundation; 3. NIMH (MH08744; MH30911; MH37705; MH14584); 4. NIMH (MH45073; MH 37940; MH38730); 5. NIMH (T32MH15161); 6. Israel Ministry of Labor and Social Welfare.

Table 25. Institutional origins of grants as reported in articles published by *Family Process* (1992-1994).

Federal	Universities	Private Foundations	International
NIMH- 23	University of Texas-Austin;	Blue Cross/Blue Shields;	Norwegian Council for Science and Humanities-3;
National Cancer Institute;		Pew Memorial;	Israel Ministry of Science;

Continued, next page.

Table 25. Continued.

US Department of Health and Human Services;		Norma and Leon Hess Legacy;	Israel Ministry of Labor and Welfare;
National Institute of Child Health and Human Development;		Solveig and Johan Sommer Foundation-2;	New Zealand Health Council.
National Institute of Disability and Rehabilitation;		Volkswagen- Stifung;	
Department of Health Services- California.		Andre and Bella Meyer Foundation;	
		Leukemia Society of America; William T. Grant-2; Medical College of Georgia Research Foundation; Firan Foundation Hoog Foundation; Ackerman Institute.	
Total	28	1	15
			5

Journal of Family Psychology (1992-1994): Bibliometric and  
citation Analysis

The categories used to analyze volumes 5 to 8 of the *Journal of Family Psychology* (corresponding to the publishing activity from 1992 to 1994) are similar to the

ones applied in the citation analysis of *Family Process* previously shown. That way, when comparing the results achieved and the observations made with each one of the journals, it is possible to define specific features of the emergence of the two disciplines (i.e. Family Therapy and Family Psychology). The categories that will be first taken into account are related to variables derived directly from the citation analysis literature or inspired on it (e.g. number of articles published, number of references per article, gender of first author and co-authors, country of professional address of first author). Other subsequent categories derive from a sociology of science approach, such as the study of scientific collaboration, the study of the patterns of acknowledgment and the analysis of grants and awards.

#### Number of articles Published

The total number of articles published by the *Journal of Family Psychology* during these three years was 98 (Cf. Table 26). However, it should be noted that this figure corresponds only to 10 issues, given the shift in the dates of publication from an academic year basis into a regular schedule.

Table 26. Number of articles published per issue by *Journal of Family Psychology* (1992-1994).

Volume, number, year			Number of articles published
Volume,	6,	1	8
Volume,	6,	2	11
Volume,	6,	3	9
Volume,	7,	1	10
Volume,	7,	2	10
Volume,	7,	3	12
Volume,	8,	1	9
Volume,	8,	2	10
Volume,	8,	3	9
Volume,	8,	4	10
TOTAL			98

#### Average number of references per Article

The average number of references per article published by the *Journal of Family Psychology* (1992-1994) was 38.8 (Cf. Table 27).



Table 27. Average number of references per article in *Journal of Family Psychology* (1992-1994).

Volume, number, year	Average number of references
Volume 6, 1, 1992	36.5
Volume 6, 2, 1992	39.2
Volume 6, 3, 1992	41.1
Volume 7, 1, 1993	47.1
Volume 7, 2, 1993	27.7
Volume 7, 3, 1993	34.8
Volume 8, 1, 1994	38.7
Volume 8, 2, 1994	47
Volume 8, 3, 1994	38.8
Volume 8, 4, 1994	37.5

#### Gender of first Authors

From the 98 articles published, 55 had a male author as first author (56%), and 33 a female first author (33.6%). In 10 cases it was not possible to include the first author of the articles in a gender specific category.

Table 28. Gender of first authors of articles published by *Journal of Family Psychology* (1992-1994).

Volume, number, year	Female	Male	Unknown
Volume 6, 1, 1992	2	6	0
Volume 6, 2, 1992	4	5	2
Volume 6, 3, 1992	3	5	1
Volume 7, 1, 1993	3	6	1
Volume 7, 2, 1993	4	6	0
Volume 7, 3, 1993	5	6	1
Volume 8, 1, 1994	5	4	0
Volume 8, 2, 1994	2	6	2
Volume 8, 3, 1994	2	5	2
Volume 8, 4, 1994	3	6	1
Totals	33	55	10

#### Gender of authors and Co-authors

A total number of 229 people participated as authors or co-authors of articles. From that figure 116 were male authors (50.6%) and 86 (37.5%) were female authors. In 27 cases it was not possible to assign a specific gender category for the author.

Table 29. Gender of first authors and co-authors of articles published by *Journal of Family Psychology* (1992-1994).

Volume,	number,	year	Female	Male	Unknown
Volume 6,	1,	1992	6	12	3
Volume 6,	2,	1992	8	10	3
Volume 6,	3,	1992	8	8	2
Volume 7,	1,	1993	8	12	6
Volume 7,	2,	1993	11	15	4
Volume 7,	3,	1993	7	13	1
Volume 8,	1,	1994	15	11	5
Volume 8,	2,	1994	5	12	1
Volume 8,	3,	1994	8	12	2
Volume 8,	4,	1994	10	11	0
Totals			86	116	27

Country of professional address reported by first  
Authors

In 89 of the 98 articles published the professional address of the first author coincide with an institution located in the USA, corresponding to 90.8% of the total. The second country most frequently mentioned was Canada with 5

allusions (5%). Israel, England, Australia and Norway also contributed with one mention each (Cf. Table 30).

Table 30. Country of professional address of first authors of articles published by *Journal of Family Psychology* (1992-1994).

<u>Volume, number, year</u>	<u>Country</u>
Vol.6, 1, 1992	8 - USA
Vol.6, 2, 1992	11 - USA
Vol.6, 3, 1993	8 - USA; 1 - Australia.
Vol.7, 1, 1993	10 - USA; 1 - Israel.
Vol.7, 2, 1993	9 - USA; 1 - Canada.
Vol.7, 3, 1993	10 - USA; 1 - Canada.
Vol. 8, 1, 1994	6 - USA; 2 - Canada; 1 - Norway.
Vol. 8, 2, 1994	9 - USA; 1 - UK.
Vol. 8, 3, 1994	8 - USA; 1 - Canada.
Vol. 8, 4, 1994	10 - USA.

Institutions where the research took Place

Universities were the institutions most frequently mentioned as the professional address of first authors (85



mentions corresponding to 86.7% of the total amount).  
Institutes and Centers followed with 6 mentions and  
Hospitals and Clinics with 2 mentions (Cf. Table 31).

Table 31. Institutions where the reported research took place as expressed in articles of *Journal of Family Psychology* (1992-1994).

	Vol. 6, 1	Vol. 6, 2	Vol.6, 3
Universities	Baylor Coll. of Medicine; Coll. of William and Mary; Indiana State Univ.; Univ. Dayton; Univ. Miami; Univ. Rochester; Wright State Univ.	Baylor Coll. of Medicine; Harvard Univ.; Kent State Univ.; Nova Univ.; Univ. Minnesota; Univ. Pennsylvania; Univ. Texas; Univ. Tulsa; Wright State Univ.	Arizona State Univ. -2; Kent State Univ.; Syracuse Univ.; Univ. Albany; Univ. Arizona; Univ. Houston; Univ. Queensland (Australia); Wright State Univ.
Hospitals and Clinics	0	McLean Hospital.	Vet. Adm. Palo Alto.
Institutes and Centers	Stone Coll. Development.	0	0
Private Practice	0	0	0
Others	0	0	0
Not Stated	0	1	0

Continued, next page.

Table 31. Continued.

	Vol. 7, 1, 1993	Vol.7, 2, 1993	Vol.7, 3, 1993
Universities	Arizona State Univ.; Baylor Coll.of Medicine-2; Notre Dame Univ.; Standford Univ.; Univ. South California; Univ. Virginia; Univ.Washington.	Notre Dame Univ.; Texas A&M; Univ. Dayton; Univ.Georgia; Univ.Minnesota; Univ. North Carolina; Univ.New Mexico; Univ.Victoria (Canada); Wright State Univ.	Arizona State Univ.; Univ.California; Univ.Kansas Univ.Pennsylvania; Univ.Quebec (Canada); Univ.South Florida; Pennsylvania State Univ.; Purdue Univ.; Yeshiva Univ.
Hospitals and Clinics	0	0	0
Institutes and Centers	St. Luke Medical Coll.	Coll. Research Mothers and Children.	Nat. Inst. Child Health and Human Development.
Private Practice	Child Trends Inc.	0	0
Others	Medical Corps Israel, Defense Forces.	0	0
Not Stated	0	0	2

Continued, next page.

Table 31.Continued.

	Vol.8, 1, 1994	Vol. 8, 2, 1994	Vol.8, 3, 1994	Vol.8, 4, 1994
Universities	Michigan State Univ.; SUNY - State Brook; Univ.Miami; Univ.Michigan (2); Univ. Ottawa (Canada); Univ. Pennsylvania Univ. Quebec (Canada); Univ. Troms (Norway).	Tufts Univ.; Univ. Virginia; Univ. California; Univ. Illinois-2; Univ. Maryland; Univ. Michigan; Univ.Texas; West Virginia Univ.	Iowa State Univ.; Texas Tech. Univ. 2; Univ. Georgia; Univ. Maryland; Univ. Minnesota; Univ. Virginia; Univ. Waterloo (Canada).	Univ. Dayton-2; Baylor Coll. of Medicine; Univ. California SUNY-Albany; Univ. Connecticut; Univ. Maryland; Univ. Washington.
Hospitals & Clinics	0	0	0	0
Institutes & Centers	0	Institute Psychiatry (London).	0	Eastern Psychiatric Institute.
Private Practice	0	0	0	0
Others	0	0	0	0
Not stated	0	0	0	0

Key words in title of Articles

The most frequent category of key words used in the title of articles was Family/ies. Marital/couples and Diagnostic Categories followed. (Cf. Table 32).

Table 32. Key words in the title of the articles in *Journal of Family Psychology* (1992-1994).

Vol.6, 1, 1992                      Vol. 6, 2, 1992                      Vol.6, 3, 1992

<b>Family(ies)</b> - F. Relationships and Children Adjustment in Stepfather Families. - Self Competence in Adolescents from Stepfather and Stepmother Families. - F. Environment and Men's Marital Satisfaction. <b>Marital/Couples</b> - Premarital Couples - Homosexual Couples <b>Concepts</b> - Close Relationships and Mutuality. <b>Social Relationships</b> - Social relationships and symptoms.  <b>Methods</b> - Genograms.	<b>Family(ies)</b> - Stress (4 times) - F. Images of the Adolescent. - F. Interaction and Adolescent Moral Judgment. <b>Marital/Couples</b> - Heterosexual and Homosexual Couples. - Expectancies in Marital Interaction.  <b>Diagnostic Categories</b> - Marriages of Depressed Patients.  <b>Concepts</b> - Intimacy and Individuation in Young Adults. - Cross-Generational Coalitions.	<b>Family(ies)</b> - Marital and F. Interaction - Mood and Evaluation of Children Behaviors <b>Marital/Couples</b> - Affect During Marital Interaction. - Marital Quality for First Time Parents and Nonparent Husbands and Wives. <b>Diagnostic Categories</b> - Alcohol Abuse and Marital Problems. <b>Concepts</b> - Relational Intimacy. - Communication Process. <b>Methods</b> - Three Family Assessment Procedures. - Family Ritual Questionnaire.
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Table 32. Continued.

Vol.7, 1, 1993

Vol. 7, 2, 1993

Vol.7, 3, 1993

<b>Family(ies)</b> <ul style="list-style-type: none"><li>- Families in transition.</li><li>- Noncustodial parents.</li><li>- Post-divorce roles.</li><li>- Parent-child interaction.</li><li>- Divorce and achievement in young adults.</li></ul>	<b>Family(ies)</b> <ul style="list-style-type: none"><li>- Negative discipline in families.</li><li>- Families with developmentally disabled children.</li><li>- Children's well-being in stepfamilies.</li><li>- Maternal and paternal parenting in adolescent functioning.</li></ul>	<b>Family(ies)</b> <ul style="list-style-type: none"><li>- Family politics and social policy.</li><li>- Conflict in families and adjustment of preadolescent children.</li><li>- Human paternal behavior.</li><li>- Formation of friendship in early adolescence.</li></ul>
<b>Marital/Couples</b> <ul style="list-style-type: none"><li>- Marital dissolution and stability.</li><li>- Marital communication.</li></ul>	<b>Marital/Couples</b> <ul style="list-style-type: none"><li>- Communication patterns among mental distressed couples.</li><li>- Marital satisfaction.</li><li>- Spousal participation in family work.</li></ul>	<b>Marital/Couples</b> <ul style="list-style-type: none"><li>- Typology of distressed couples.</li><li>- Responsibility and blame in marriage.</li></ul>
<b>Diagnostic Categories</b> <ul style="list-style-type: none"><li>- Adolescent depression.</li><li>- Post-traumatic combat veterans wives second traumatization.</li><li>- Physically abused children.</li></ul>	<b>Methods</b> <ul style="list-style-type: none"><li>- Coding defensive and supportive communications.</li></ul>	<b>Diagnostic Categories</b> <ul style="list-style-type: none"><li>- Problem drinking and mothers personal adjustment.</li></ul>
		<b>Methods</b> <ul style="list-style-type: none"><li>- A test of adaptability.</li></ul>
		<b>Concepts</b> <ul style="list-style-type: none"><li>- Biological determinism.</li></ul>

Continued, next page.

Table 32. Continued.

Vol.8, 1, 1994

Vol. 8, 2, 1994

<b>Family(ies)</b> <ul style="list-style-type: none"><li>- Violence in childhood siblings.</li><li>- Young adolescents cancer survivors.</li></ul> <b>Marital/Couples</b> <ul style="list-style-type: none"><li>- Couples coping with myocardial infection.</li><li>- Disclosures of marital problems to confidants.</li></ul> <b>Diagnostic Categories</b> <ul style="list-style-type: none"><li>- Depressive symptomatology in marital discordant women and men.</li></ul> <b>Concepts</b> <ul style="list-style-type: none"><li>- Disqualifying family communication.</li></ul> <b>Methods</b> <ul style="list-style-type: none"><li>- Measure of marital satisfaction.</li></ul>	<b>Family(ies)</b> <ul style="list-style-type: none"><li>- Marital conflict and child adjustment.</li><li>- Transition to young adulthood.</li></ul>          <b>Diagnostic Categories</b> <ul style="list-style-type: none"><li>- Adolescent depressive symptoms.</li></ul>          <b>Concepts</b> <ul style="list-style-type: none"><li>- Effects of marital research on marital relationships.</li></ul>          <b>Methods</b> <ul style="list-style-type: none"><li>- Brother-sister questionnaire.</li></ul>
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Continued, next page.

Table 32. Continued.

Vol.8, 3, 1994	Vol.8, 4, 1994
<b>Family(ies)</b> <ul style="list-style-type: none"><li>- Justice in the family.</li><li>- Sibling relationship quality.</li><li>- Sibling references in delinquency.</li><li>- Siblings family relations and child development.</li><li>- Social competence during adolescence.</li><li>- Adolescent cigarette smoking.</li></ul> <b>Marital/Couples</b> <ul style="list-style-type: none"><li>- Male alcoholics and marital aggression.</li></ul> <b>Methods</b> <ul style="list-style-type: none"><li>- Influence of gender for family evaluating.</li><li>- Reactivity effects among naturalistic observation.</li></ul>	<b>Family(ies)</b> <ul style="list-style-type: none"><li>- Typology of incestuous families.</li><li>- Parent-child relationships in Vietnamese immigrant families.</li></ul> <b>Marital/Couples</b> <ul style="list-style-type: none"><li>- Similarity in couples.</li><li>- Marital satisfaction versus marital adjustment.</li></ul> <b>Diagnostic Categories</b> <ul style="list-style-type: none"><li>- Late life problem drinkers.</li></ul> <b>Concepts</b> <ul style="list-style-type: none"><li>- The process of family therapy.</li></ul> <b>Methods</b> <ul style="list-style-type: none"><li>- Publishing multiple articles from a single set of data.</li></ul>

Study of scientific collaboration in *Journal of Family Psychology* (1992-1994)

The study of scientific collaboration as expressed in the published articles of the *Journal Family Psychology* includes: a) The percentage of one author articles versus the percentage of co-authored articles; b) The percentage of co-authored articles whose authors belong to different Institutions, a measure of scientific institutional

Collaboration; c)The definition of the amount of co-authored articles, whose authors belong to Institutions located in different countries.

Concerning the first mentioned dimension, 28 articles had a single author, corresponding to 28.5% of the total value of published articles (Cf. Table 33). In what respects the inquiry on institutional collaboration, 26 articles result from the collaboration among authors having as professional address different institutions (Cf. Table 34). The international collaboration, as defined previously, took place 2 times (Cf. Table 35).

Table 33. Number of individual authored and co-authored articles in *Journal of Family Psychology* (1992-1994).

	Vol.6, 1	Vol. 6, 2	Vol. 6, 3	Vol.7, 1	Vol.7,2
One author	2	4	3	3	0
2 authors	3	5	4	4	5
3 authors	1	1	1	1	2
4 authors	1	0	0	2	2
5 authors	0	1	1	0	0
6 authors	1	0	0	1	1
> 6 authors	0	0	0	0	0

Continued, next page.



Table 33. Continued.

	Vol.7, 3	Vol.8, 1	Vol.8, 2	Vol.8, 3	Vol.8, 4
One author	6	0	6	0	4
2 authors	3	5	3	2	3
3 authors	2	2	2	2	4
4 authors	1	2	1	4	0
5 authors	0	0	0	1	0
6 authors	0	1	0	0	0
> 6 authors	0	0	0	0	0

Table 34. Scientific institutional collaboration: Different professional addresses of co-authored articles in *Journal of Family Psychology* (1992-1994).

Vol. 7, 1	Vol.7, 2	Vol.7, 3
1. Baylor College of Medicine and Virginia Univ.;	1. Univ. New Mexico and Univ. Utah and Randson Coll.	1. Univ. California and San Diego Univ. and Vet. Adm. Med.;
2. Stanford Univ. and Wake Forest Univ.;		2. Univ. Quebec and Univ. Montreal;
3. St. Luke Medical Coll. and Univ. North Carolina.		3.Univ. Pennsylvania and Univ. California.

Continued, next page.

Table 34. Continued.

Vol. 8, 1	Vol.8, 2
1.Univ. Quebec and Univ. Laval and Univ. Denver; 2. Michigan State Univ. and Family Institute Chicago; 3. Univ. Pennsylvania and Seattle Child Hospital and Univ. Utah and Univ. Virginia; 4. Univ. Miami and Univ. Minnesota; 5. Univ. Troms (Norway) and Dukmark Hospital Oslo and Univ. Rochester.	1. Univ. Illinois and Univ. Wisconsin; 2. Tuffs Univ. and West Virginia Univ. and Univ. Colorado; 3. Univ. Texas and Stanford Univ.
Vol. 8, 3	Vol. 8, 4
1. Univ. Waterloo and Univ. Guelph; 2. Texas Tech. Univ. and Univ. Virginia and George Washington Univ.; 3. Univ. Maryland and Vet. Adm. Medical Coll. and Harvard Univ.; 4. Texas Tech. Univ. and Univ. Nebraska; 5. Vet. Adm. Palo Alto and California Medical and Univ. Pittsburgh.	1. Univ. Dayton and Wright State Univ.; 2. SUNY-Albany and Williams Coll.; 3. Univ. Connecticut and Univ. Michigan; 4.Univ. Maryland and Univ. Missouri.

Table 35. Scientific international collaboration:  
Professional addresses of authors from different countries  
of co-authored articles in *Journal of Family Psychology*  
(1992-1994) .

Vol.6, 1	Vol.6, 2	Vol.6, 3	Vol. 7, 1	Vol.7, 2
0	0	0	0	0

Continued, next page.

Table 35. Continued.

Vol. 7, 3	Vol. 8, 1	Vol. 8, 2	Vol. 8, 3	Vol. 8, 4
0	1.Univ. Quebec and Univ. Laval (Canada) and Univ. Denver;	0	0	0
	2.Univ. Torms and Dukemark Hospital (Norway) and Univ. Rochester.			

Patterns of Acknowledgment

A total of 53 acknowledgments were made to 73 people explicitly named. The content of the acknowledgment most frequently stated refers to participants collaboration in the research reported and feed-back on previous versions of the manuscript (Cf. Table 36). The reviewers were also generously acknowledged.

Table 36. Patterns of acknowledgment observed in *Journal of Family Psychology* (1992-1994).

Volume, Issue, year	Amount of acknowledgments	Acknowledgment content: To whom? For what?
Vol.6, 1, 1992	6 in 8 published articles	<div>1. "The couples who participate; 3 people for assistance; 2 reviewers".</div> <div>2."13 people for making the study possible, comments, assistance and coordination of statistical analysis"; "3 reviewers for comments".</div> <div>3. "I person for help in data collection; 5 people who served as coders".</div> <div>4. "1 person for her comments; 1 person for allowing the study to be conducted at the center".</div> <div>5. "We appreciate the administration and students of Troy Jr. High School; 1 person for assistance".</div> <div>6. "2 people for comments; 2 reviewers for comments".</div>

Continued, next page.



Table 36. Continued.

Vol.6, 2, 1992	6 in 11 articles	<ol style="list-style-type: none"> <li>1. " I gratefully thank the Institute and 2 people in the acquisition of data".</li> <li>2. 9 people for "ongoing support, comments, test administration, support; students of Belmont High School".</li> <li>3. 1 person for data collection.</li> <li>4." I thank the couples who participated; 1 person for comments; 2 reviewers.</li> <li>5."2 people for gracious consultation, and assistance; 4 reviewers for comments".</li> <li>6. "10 people for secretarial assistance, technical support, rating administrative support".</li> </ol>
Vol. 6, 3, 1993	8 in 9 articles	<ol style="list-style-type: none"> <li>1. "7 people for comments, help in data collection, software development; several anonymous reviewers".</li> <li>2. "1 person for help in data collection".</li> <li>3. "The couples who participated; 1 person for comments; 2 reviewers for comments".</li> <li>4. "1 person for statistical consultation".</li> <li>5. "2 people for insightful comments".</li> <li>6. "4 people for data collection and editorial assistance".</li> <li>7."13 people for their help in various aspects of the project".</li> <li>8."8 people who helped in data preparation and coding".</li> </ol>

Continued, next page.

Table 36.  
Continued.

Vol. 7, 1, 1993	5 in 11 articles	<ol style="list-style-type: none"> <li>1. "5 people for analytic and computer skills".</li> <li>2. "Special appreciation is extended to E. Mavis Hetherington and her research team".</li> <li>3. "James H. Bray; 2 reviewers"</li> <li>4. "6 people for constructive assistance; staff from protective agencies from Price George's County".</li> <li>5. "Comments made by H. Markman, Cliff Notarius and 4 other people" .</li> </ol>
Vol. 7, 2, 1993	3 in 10 articles	<ol style="list-style-type: none"> <li>1. "3 people from the California Department of Developmental Services ; 2 people for assistance in data collection".</li> <li>2. "2 anonymous reviewers; the families that participated".</li> <li>3. "We thank the students and the principal of Junior High School".</li> </ol>
Vol.7, 3, 1993	6 in 12 articles	<ol style="list-style-type: none"> <li>1. "6 people for comments; 1 person (author's father for his support, patience and commitment to fathering".</li> <li>2. "2 people for insightful comments".</li> <li>3. "7 people for assistance and work on graphics".</li> <li>4. "7 people for data collection, support dedication to the assessment and treatment of distressed couples".</li> <li>5. "We would like to thank the principals, teachers, parents and children who participated; 3 reviewers".</li> <li>6. "Dade County City for Cooperation".</li> </ol>

Continued, next page.

Continued, next page.

Table 36.  
Continued.

Vol.8, 1, 1994	7 in 9 articles	<ol style="list-style-type: none"> <li>1."3 people for comments and statistical calculations".</li> <li>2."2 people for feed-back and statistical analysis".</li> <li>3."Patients and spouses for their help; anonymous reviewers for statistical advice".</li> <li>4."2 people from Barling Green Couples Communication Project for their work".</li> <li>5."1 person for assistance and chart review".</li> <li>6."1 person for comments".</li> <li>7."11 people made essential contributions".</li> </ol>
Vol.8, 2, 1994	4 in 10 articles	<ol style="list-style-type: none"> <li>1."4 people for research assistance."</li> <li>2."14 people assistance and comments; 2 reviewers comments".</li> <li>3."11 people for data collection and analysis".</li> <li>4."1 person for comments".</li> </ol>
Vol.8, 3, 1994	3 in 9 articles	<ol style="list-style-type: none"> <li>1. " families who participated; 1 person who coordinated the project".</li> <li>2. " several collaborators".</li> <li>3. "6 people for data collection".</li> </ol>
Vol.8, 4, 1994	5 in 10 articles	<ol style="list-style-type: none"> <li>1. "1 person for advice."</li> <li>2. "5 people for help and useful comments".</li> <li>3. "3 people for data collection and management;3 reviewers".</li> <li>4. "7 people for organizing data files and data collection".</li> <li>5. "2 people for assistance with some aspects of data analysis".</li> </ol>
Total:	53 acknowledgments	made to 73 people.

Grants and Awards

A total of 137 supporting institutions and programs were reported. That is, each published article had an average of 1.4 institutions and programs directly supporting the research reported (Cf. Table 36). The most mentioned granting institution was the National Institute for the Mental Health (23 references) followed by the National Institute of Alcohol Abuse and Alcoholism (8 references). A total of 47 references were made to Federal institutions as the ones mentioned, 13 were made to Universities as supporting institutions and 12 to Private Foundations and Institutions (Cf. Table 37). In 7 situations the research reported was supported by government agencies other than the ones of the USA (e.g. research councils of Canada and Norway).

Table 37. Number and origin of grants and awards reported in the articles of Journal of Family Psychology (1992-1994).

Volume, issue, year	Amount of grants and awards	Origin of grants and awards
Vol. 6, 1, 1992	4 in 8 articles	Texas Univ.; Nat. Inst. of Child Health and Human Development; Stone College - Development Service; Wellesley College.
Vol. 6, 2, 1992	8 in 10 article	NIMH - 3; Nat. Inst. Child Health & Human Develop.; Nat. Inst. Aging; Texas Women Univ.; Nathan & Sarah Gordon Philantropic Inst.
Vol. 6, 3, 1993	4 in 9 articles	Arizona State Univ.; Univ. Queensland; Univ. Houston; Nat. Inst Alcohol Abuse and Alcoholism.

Continued, next page.



Table 37.Continued.

Vol. 7, 2, 1993	8 in 10 articles	Univ. Georgia; Univ. Victoria (Canada); Nat.Inst. Health; Nat.Inst. Child Health & Human Development; Sciences Humanities Research Council (Canada); William T. Clark Foundation; Mariner State Eccles Fellowship.
Vol. 7, 3, 1993	6 in 12 articles	NIMH - 3; Univ. Miami, Sciences Humanities Research Council (Canada); Funds Formation Chercheurs (Canada).
Vol.8, 1, 1994	10 in 9 articles	NIMH - 3; Univ. Michigan; Univ. Ottawa; Nat. Health Research Develop. (Can)-2; Family Health Foundation; Nat. Heart Lung Blood Ins.; Research General (Norway).
Vol. 8, 2, 1994	13 in 10 articles	NIMH - 5; Univ. California; Univ. Texas; Nat. Science Foundation; William T Grant Foundation-2; John & Catherine MacArthur Foundation; Harry F. Guggenheim Foundation; Hogg Foundation.

Continued, next page.

Table 37.Continued.

Vol. 8, 3, 1994	15 in 10 articles	NIMH - 5; Nat.Science Foundation; Nat. Ins. Drug Abuse-2; Nat. Ins. Alcohol Abuse & Alcoholism-2;Dept. Vet. Adm.; Harry F Guggenheim Fund.; John & Catherine MacArthur Foundation; William T. Grant Foundation; Social Sciences & Humanities Research Council (Canada).
Vol. 8, 4, 1994	10 in 10 articles	NIMH-4; Nat. Science Foundation; Nat. Ins. Alcohol Abuse & Alcoholism-3;Dept. Vet. Adm.; Horace M.School.

Table 38. Institutional origins of grants as reported in  
articles published by the *Journal of Family  
Psychology* (1992-1994).

Federal	Universities	Private Foundations	Internation al
NIMH- 23	Univ. Texas-1	Smithers Found.-1	Research Council of Norway-1

Continue, next page.

Table 38. Continued.

Nat. Science Found.-4	Texas Women's Univ.-2	Nathan & Sarah Gordon Philanthropic Trust-1	Social Sciences and Humanities Res. Council (Canada)-4
NIH - 3	Univ. Arizona-1	Marriner Eccles Fellowship - 1	Nat. Health & Res. (Canada)-1
Nat. Inst. Alcohol Abuse & Alcoholism- 8	Univ. Minnesota- 1	William T. Grant Foundation- 4	Fonds Formation Chercheurs- 1 (Canada)
Nat. Inst. Child Health & Human Development-3	Univ. Houston-1	Harry Frank Guggenheim Found.- 2	
Nat. Ins. on Aging-1	Univ. Georgia- 1	Hogg Found.-1	
Nat. Ins. Drug Abuse - 2	Univ. Miami-1	John & Catherine MacArthur F.- 2	
Nat. Ins. Heart, Lung & Blood-1	Univ. Michigan - 1		
Department of Veterans Affairs-3	Univ. California - 1		
	Univ. Ottawa- 1		
	Univ. Victoria- 1		
	Univ. Queensland - 1		
TOTAL 47	13	12	7

## Thérapie Familiale (1980-1982): Bibliometric and Citation

### Analysis

The categories used to analyze the journal *Thérapie Familiale* are the same as the ones used with *Family Process* and *Journal of Family Psychology*. The publication years to be examined are those from 1980 to 1982, corresponding to volumes 1 to 3 and those from 1992 to 1994, corresponding to volumes 14 to 16. The selection of these time periods was made taking in consideration the following criteria:

- a) The issues were available for a close analysis;
- b) They incorporated the first three years of publishing activity of the journal, a circumstance that could make possible the study of the dissemination process concerning scientific information in Family Therapy in a French language context;
- c) They covered a time period coincident with the one considered for analysis of the journals *Family Process* and *Journal of Family Psychology*, making it possible to compare the data obtained in the three journals.

The levels of analysis of the journal *Thérapie Familiale* will include a citation analysis methodology, a



network analysis, a controversies analysis and a pattern of acknowledgment, as done with *Family Process* and *Journal of Family Psychology*. Specifically, the variables to be taken into consideration at the citation analysis were: number of articles published, number of references per article, number of authors and co-authors, number of references per article, gender of first authors and co-authors and country of professional address of first author.

At the level of the study of scientific collaboration, as expressed by the publishing activity of this journal, the variables selected were the study of patterns of acknowledgment and the analysis of grants and awards.

#### Number of articles Published

During the time period from 1980 to 1982, the journal *Therapie Familiale* published 75 articles (Cf. Table 39). It should be noted that not all of the published articles were original. In fact, *Therapie Familiale* translated several articles previously published in other family therapy journals.

Table 39. Number of articles published per issue by *Therapie Familiare* (1980-1982).

Volume, number, year	Number of articles published
Volume, 1, 1, 1980	7
Volume, 1, 2, 1980	7
Volume, 1, 3, 1980	5
Volume, 1, 4, 1980	6
Volume, 2, 1, 1981	5
Volume, 2, 2, 1981	5
Volume, 2, 3, 1981	5
Volume, 2, 4, 1981	10
Volume, 3, 1, 1982	5
Volume, 3, 2, 1982	8
Volume, 3, 3, 1982	5
Volume, 3, 4, 1982	7
Total	75

#### Average number of references per Article

The average number of references per published article was 10.9 (Cf. Table 40).

Table 40. Average number of references per article in *Therapie Familiale* (1980-1982).

Volume, number, year	Number of references per article
Volume, 1, 1, 1980	5.9
Volume, 1, 2, 1980	6.5
Volume, 1, 3, 1980	9
Volume, 1, 4, 1980	10.6
Volume, 2, 1, 1981	3.6
Volume, 2, 2, 1981	16
Volume, 2, 3, 1981	11.6
Volume, 2, 4, 1981	4.5
Volume, 3, 1, 1982	35
Volume, 3, 2, 1982	8.8
Volume, 3, 3, 1982	11.5
Volume, 3, 4, 1982	7.8

#### Gender of first Authors

The distribution of the gender of first authors as presented in the articles published was as follows: 21 were female authors and 34 were male authors (Cf. Table 41). In 20 articles it was not possible to assign a specific gender

category, given that some authors did not mentioned any given name.

Table 41. Gender of first authors of articles published by *Therapie Familiale* (1992-1994).

Volume, number, year	Male	Female	Unknown
Vol. 1, 1, 1980	3	2	2
Vol. 1, 2, 1980	4	1	2
Vol. 1, 3, 1980	2	1	2
Vol. 1, 4, 1980	2	3	1
Vol. 2, 1, 1981	4	1	0
Vol. 2, 2, 1981	1	2	2
Vol. 2, 3, 1981	3	2	0
Vol. 2, 4, 1981	3	5	2
Vol. 3, 1, 1982	4	1	0
Vol. 3, 2, 1982	2	1	5
Vol. 3, 3, 1982	3	2	0
Vol. 3, 4, 1982	3	0	4
Total	34	21	20

#### Gender of authors and Co-authors

A total of 99 people participated either as authors or co-authors of the 75 articles published by the journal *Therapie Familiale* (Cf. Table 42). From that value 52 were male authors (52,5%) and 21 were female authors (21,2%). In



26 cases it was not possible to assign a specific gender category to the author.

Table 42. Gender of first authors and co-authors of articles published by *Therapie Familiale* (1980-1982).

Volume, number, year	Female	Male	Unknown
Vol. 1, 1, 1980	3	5	5
Vol. 1, 2, 1980	2	4	1
Vol. 1, 3, 1980	0	3	6
Vol. 1, 4, 1980	4	5	1
Vol. 2, 1, 1981	2	4	1
Vol. 2, 2, 1981	2	1	0
Vol. 2, 3, 1981	1	7	0
Vol. 2, 4, 1981	3	6	1
Vol. 3, 1, 1982	0	6	0
Vol. 3, 2, 1982	2	3	6
Vol. 3, 3, 1982	2	2	2
Vol. 3, 4, 1982	0	6	3
Total	21	52	26

Country of professional address reported by first  
Authors

The country of professional address of the first authors was mentioned 60 times (Cf. Table 43). From this total, France was the country most cited (20 times). Belgium

and Switzerland followed with 11 mentions each. This three countries account with 70% of the total number of countries mentioned. With a small number of references, other countries were also mentioned: Italy (6 times), Canada (4 times), Norway and Portugal (2 times each), and finally Spain, Yugoslavia, Holland and Senegal with one mention each.

Table 43. Country of professional address of first authors of articles published by *Therapie Familiale* (1980-1982).

Volume, number, year	Country of professional address of first author	
Vol. 1, 1, 1980	Belgium Italy Switzerland - 2	France - 2 Norway
Vol. 1, 2, 1980	Canada Portugal Switzerland	France - 2 Senegal
Vol. 1, 3, 1980	France Italy	Canada Switzerland

Continued, next page.

Table 43. Continued.

Vol. 1, 4, 1980	Belgium Italy	France - 3
Vol. 2, 1, 1981	Canada Italy	France - 2
Vol. 2, 2, 1981	Canada France	
Vol. 2, 3, 1981	Belgium Italy Switzerland Yugoslavia	France Norway
Vol. 2, 4, 1981	Belgium - 2 Italy Portugal Switzerland - 2	France Holland Spain
Vol. 3, 1, 1982	Belgium Switzerland - 2	France
Vol. 3, 2, 1982	France - 4 Italy	
Vol. 3, 3, 1982	Belgium - 2 Switzerland - 2	
Vol. 3, 4, 1982	Belgium - 3 Norway	France - 3

## Institutions where the research took Place

Institutes and Centers were the institutions most frequently mentioned as professional address of first

authors (18 times). Universities, Hospitals and Clinics were mentioned 11 times each. Private Practice was mentioned once.

Table 44. Institutions where the reported research took place as expressed in articles of *Therapie Familiale* (1980-1982).

	Vol.1, 1	Vol.1, 2	Vol.1, 3	Vol.1, 4
University	Lausanne.	Montreal Univ.; Lisbon Univ.	0	0
Hospitals and Clinics	St. Jacques- Nantes; Centre Hospitalier Villejuif; Centre Chapelle aux Champs; Service Medico- Pedagogiques.	Hospital de Cery.	Groupe Jurassienne d'Etude de la Famille.	Centre Hospitalier de Montpellier.
Institutes and Centers	Centre pour l'etude de la famille-Milan; Centre de guidance de la famille-Sagene.	0	Family Therapy Institute-Rome.	Family Therapy Institute- Rome; "La ferme du soleil"- Belgium.
Private Practice	0	0	0	0
Others	0	0	0	0
Not stated	0	4	3	3

Continued, next page.



Table 44. Continued.

Institution	Vol.2, 1	Vol.2, 2	Vol.2, 3	Vol.2, 4
University	Montreal Univ.	Albert Einstein College of Medicine; Montreal Univ.	Louvain Univ.; Bari Univ.	Lisbon Univ.
Hospitals and Clinics	Centre Hospitalier de Villejuif.	Centre Hospitalier de Villejuif.	Centre de Guidance Familial-Sagene (Norway).	Psychiatrische Klinick- Holland.
Institutes and Centers	Centre pour l'etude de la famille-Milan;  Association Lyonnaise de Therapie Familiale.		Association Lyonnaise de therapie de la Famille;  Mental Health Institute-Belgrade.	Unite de Therapie Familiale et de Prevention - Lausanne; Family Therapy Institute-Rome;  Centro Medico de Psicoterapia- Madrid;  Institute Univ. d'Hygiene Mentale.
Private Practice	0	0	0	1
Others	0	0	0	0
Not stated	1	2	0	3

Continued next page.

Table 42. Continued.

Institution	Vol.3, 1	Vol.3, 2	Vol.3, 3	Vol.3, 4
University	Louvain Univ.	0	Louvain Univ.;	0
Hospitals and Clinics	0	Hopital Robert Debre-Reims; Centre Hospitalier de Bassens; Hopital de Esquirol;	0	0
Institutes and Centers	Mental Research Institute;	Centro per lo studio della famiglia-Milan;	Unite de Therapie Familiare et de prevention; Institute de medicine legal- Geneve;	0
Private Practice	1	0	1	0
Others	0	0	0	0
Not stated	2	5	1	7

Key words in the title of Articles

The category Concepts was the most frequently observed. It was followed by Family/ies, Diagnostic Categories and Methods (Cf. Table 45).

Table 45. Key words in the title of the articles in *Therapie Familiare* (1980-1982).

Vol.1, 1, 1980	Vol.1, 2, 1980
<div><div>Family(ies)</div><div><ul style="list-style-type: none"><li>- Racism in families,</li><li>- Family psychopathology;</li><li>- Family secrets;</li><li>- Family therapy and child and adolescents psychosis.</li></ul></div><div><div>Diagnostic Categories</div><div><ul style="list-style-type: none"><li>- Systemic interventions in schizophrenia.</li></ul></div></div><div><div>Concepts</div><div><ul style="list-style-type: none"><li>- Communication theory and structuralism.</li></ul></div></div></div>	<div><div>Family(ies)</div><div><ul style="list-style-type: none"><li>- High risk families;</li><li>- Family dislocation.</li></ul></div><div><div>Diagnostic Categories</div><div><ul style="list-style-type: none"><li>- Anorexia nervosa and family therapy.</li></ul></div></div><div><div>Concepts</div><div><ul style="list-style-type: none"><li>- Aspects of the demand;</li><li>- Social psychiatry.</li></ul></div></div><div><div>Methods</div><div><ul style="list-style-type: none"><li>- The outreach family therapy experience.</li></ul></div></div></div>
Vol. 1, 3, 1980	Vol. 1, 4, 1980
<div><div>Family(ies)</div><div><ul style="list-style-type: none"><li>- Criteria for selecting foster families.</li></ul></div><div><div>Diagnostic Categories</div><div><ul style="list-style-type: none"><li>- Infantile psychosis and parentification;</li><li>- Psychosomatic troubles.</li></ul></div></div><div><div>Concepts</div><div><ul style="list-style-type: none"><li>- Family homeostasis.</li></ul></div></div><div><div>Methods</div><div><ul style="list-style-type: none"><li>- Family therapy training.</li></ul></div></div></div>	<div><div>Family(ies)</div><div></div><div><div>Concepts</div><div><ul style="list-style-type: none"><li>- Epstein model in family therapy;</li><li>- Organizational analysis of family homeostasis.</li></ul></div></div><div><div>Methods</div><div><ul style="list-style-type: none"><li>- Use of metaphors in family therapy.</li></ul></div></div></div>

Continued, next page.

Table 45. Continued.

Vol. 2, 1, 1981	Vol. 2, 2, 1981
<div>Concepts</div> <div><ul style="list-style-type: none"><li>- "Steps to an ecology of mind";</li><li>- Attention structures;</li><li>- Context and metacontext in family psychotherapy;</li></ul></div> <div>Methods</div> <div><ul style="list-style-type: none"><li>- From the directive to paradoxical interventions;</li></ul></div>	<div>Diagnostic Categories</div> <div><ul style="list-style-type: none"><li>- Attempted suicide;</li></ul></div> <div>Concepts</div> <div><ul style="list-style-type: none"><li>- Communication processes;</li></ul></div> <div>Methods</div> <div><ul style="list-style-type: none"><li>- Family sculpture;</li></ul></div>
Vol. 2, 3, 1981	Vol. 2, 4, 1981
<div>Family(ies)</div> <div><ul style="list-style-type: none"><li>- Family influences over chronically ill children.</li></ul></div> <div>Diagnostic Categories</div> <div><ul style="list-style-type: none"><li>- Communication and family therapy intervention with alcoholic families.</li></ul></div> <div>Concepts</div> <div><ul style="list-style-type: none"><li>- Systems and catastrophes theory;</li><li>- A model of human relationships;</li></ul></div> <div>Methods</div> <div><ul style="list-style-type: none"><li>- Limits of family therapy training models.</li></ul></div>	<div>Marital/Couples</div> <div><ul style="list-style-type: none"><li>- Negotiation in couples therapy.</li></ul></div> <div>Diagnostic Categories</div> <div><ul style="list-style-type: none"><li>- Child abuse and family therapy.</li></ul></div> <div>Concepts</div> <div><ul style="list-style-type: none"><li>- Strategic principles in family therapy;</li><li>- The triangle concept in family therapy and organizations intervention.</li></ul></div> <div>Methods</div> <div><ul style="list-style-type: none"><li>- Family therapy strategies in rigid systems;</li><li>- Using family therapy in large settings.</li></ul></div>

Continued, next page.



Table 45. Continued.

Vol. 3, 1, 1982

Vol. 3, 2, 1982

<b>Diagnostic Categories</b> - Depression following stroke.  <b>Concepts</b> - Systemic reflections in family therapy; - The copernecien revolution in family therapy; - References on systemic theories and family therapy.	<b>Family(ies)</b> - "Leaving home";  <b>Concepts</b> - The linguistic conditioning barrier; - Therapy and social control; - relational issues implicit in discourse.  <b>Methods</b> - Familial prognostic; - Home visits and discovery of secrets.
Vol. 3, 3, 1982	Vol. 3, 4, 1982
<b>Family(ies)</b> - Families of young heroin addicts in therapy.  <b>Diagnostic Categories</b> - Family therapy of alcohol and drug abuse.  <b>Concepts</b> - Incest, death and drug dependence.  <b>Methods</b> - Preliminary family consultations in the treatment of alcoholic patients.	<b>Family(ies)</b> - Family function of alcoholism.  <b>Marital/Couples</b> - Couples looking for a new narrative.  <b>Concepts</b> - Change and discontinuity; - Phenomena-structural analysis of family communication.

Continued, next page.

Study of scientific collaboration in *Therapie Familiale*  
(1980-1982)

In what concerns the the study of scientific collaboration in *Therapie Familiale*, the dimensions taken into consideration were: a) Single authored and co-authored articles; b) Institutional collaboration; c) International collaboration.

From the total number of articles published, 57 had a single author, corresponding to 76% of all situations (Cf. Table 46).

Table 46. Number of individual authored and co-authored articles in *Therapie Familiale* (1980-1982).

	Vol. 1,1	Vol. 1,2	Vol. 1,3	Vol. 1,4
1 author	3	7	3	4
2 authors	2	0	1	0
3 authors	2	0	0	0
4 authors	0	0	4	0
5 authors	0	0	0	1
6 authors	0	0	0	0
> 6 authors	0	0	0	0

Continued, next page.

Table 46. Continued.

	Vol. 2,1	Vol. 2,2	Vol. 2,3	Vol. 2,4
1 author	4	4	5	9
2 authors	0	0	0	2
3 authors	1	0	0	0
4 authors	0	0	0	0
5 authors	0	0	0	0
6 authors	0	0	0	0
> 6 authors	0	0	0	0

	Vol. 3,1	Vol. 3,2	Vol. 3,3	Vol. 3,4
1 author	4	5	4	5
2 authors	1	3	1	2
3 authors	0	0	0	0
4 authors	0	0	0	0
5 authors	0	0	0	0
6 authors	0	0	0	0
> 6 authors	0	0	0	0

Concerning the institutional collaboration as previously defined, only one situation of co-authorship of authors belonging to different institutions was observed

during the time period under analysis in the journal *Therapie Familiale* (Cf. Table 47).

Table 47. Scientific institutional collaboration: Diffrent professional addresses of co-authored articles in *Therapie Familiale* (1980-1982).

Vol. 1,1	Vol. 1,2	Vol. 1,3	Vol. 1,4
1. Service Universitaire de Psychiatrie Infantile and Institute Universitaire d'Higiène Mentale- Lausanne- Switzerland.	0	0	0
Vol. 2,1 0	Vol. 2,2 0	Vol. 2,3 0	Vol. 2,4 0
Vol. 3,1 0	Vol. 3,2 0	Vol. 3,3 0	Vol. 3,4 0

In what respects the international collaboration dimension, there were no articles co-authored by people who reported professional addresses located in different countries during the time period under analysis (1980-1982).



## Patterns of Acknowledgment

No patterns of acknowledgment were reported in *Therapie Familiale* during the period from 1980 to 1982 (i.e. volumes 1 to 3).

## Grants and Awards

During the first three years of publication of the journal *Therapie Familiale*, only one funding institution was mentioned. The observation made concerned the Fund National de la Recherche Scientifique (Switzerland), which was named in an article published in Volume 1, Number 2.

## Therapie Familiale (1992-1994): Bibliometric and citation

### Analysis

#### Number of articles Published

The total number of articles published by *Therapie Familiale* in the time period from 1992 to 1994 was 83 articles (Cf. Table 48).

Table 48. Number of articles published per issue by *Therapie Familiale* (1992-1994).

Volume, number, year	Number of articles published
Volume, 13, 1, 1992	7
Volume, 13, 2, 1992	6
Volume, 13, 3, 1992	12
Volume, 13, 4, 1992	5
Volume, 14, 1, 1993	7
Volume, 14, 2, 1993	10
Volume, 14, 3, 1993	5
Volume, 14, 4, 1993	6
Volume, 15, 1, 1994	8
Volume, 15, 2, 1994	3
Volume, 15, 3, 1994	6
Volume, 15, 4, 1994	8
Total	83

#### Average number of references per Article

The average number of references per article observed in the above mentioned journal was 14.8 (Cf. Table 49).

Table 49. Average number of references per article in *Therapie Familiale* (1992-1994).

Volume, number, year	Average number of articles published
Volume, 13, 1, 1992	24
Volume, 13, 2, 1992	13.5
Volume, 13, 3, 1992	11.8
Volume, 13, 4, 1992	11
Volume, 14, 1, 1993	13.4
Volume, 14, 2, 1993	20
Volume, 14, 3, 1993	10.8
Volume, 14, 4, 1993	27.1
Volume, 15, 1, 1994	14.6
Volume, 15, 2, 1994	7
Volume, 15, 3, 1994	13.1
Volume, 15, 4, 1994	11.3

#### Gender of first Authors

The gender of first authors of the articles published was distributed as follows: 37 male authors (corresponding to 44.5% of all authors), 29 female authors (corresponding to 35%). In 17 situations it was not possible to assign a gender specific category to the author (Cf. Table 50).

Table 50. Gender of first authors of articles published in *Therapie Familiale* (1992-1994).

Volume, number, year	Male	Female	Unknown
Vol. 13, 1, 1992	3	3	1
Vol. 13, 2, 1992	3	2	1
Vol. 13, 3, 1992	5	7	0
Vol. 13, 4, 1992	1	2	2
Vol. 14, 1, 1993	5	2	0
Vol. 14, 2, 1993	3	3	4
Vol. 14, 3, 1993	3	2	0
Vol. 14, 4, 1993	3	2	1
Vol. 15, 1, 1994	3	2	3
Vol. 15, 2, 1994	1	1	1
Vol. 15, 3, 1994	3	1	2
Vol. 15, 4, 1994	4	2	2
Total	37	29	17

#### Gender of authors and Co-authors

The gender of authors and co-authors was distributed as follows: In 45 articles the author was a female (corresponding to 33% of all cases) and in 47 articles the author was a male (corresponding to 34,5 of all cases). It was not possible to assign a gender specific category in 44 situations. (Cf. Table 51).



Table 51. Gender of first authors and co-authors of articles published by *Therapie Familiale* (1992-1994).

Volume, number, year	Male	Female	Unknown
Vol. 13, 1, 1992	2	7	3
Vol. 13, 2, 1992	5	7	2
Vol. 13, 3, 1992	4	7	1
Vol. 13, 4, 1992	2	2	2
Vol. 14, 1, 1993	6	2	0
Vol. 14, 2, 1993	5	2	15
Vol. 14, 3, 1993	4	2	0
Vol. 14, 4, 1993	3	4	4
Vol. 15, 1, 1994	4	5	7
Vol. 15, 2, 1994	1	1	4
Vol. 15, 3, 1994	7	3	2
Vol. 15, 4, 1994	4	3	4
Total	47	45	44

Country of professional address reported by first Authors

The set of countries more frequently mentioned as professional address of first authors was, as it might be expected, the French speaking countries: Belgium (25 mentions), France 16 (mentions) and Switzerland (10 mentions). Those countries were followed by Italy, Canada,

Spain and the USA respectively with 5, 5, 3 and 2 mentions.  
Argentina and Norway had 1 mention each (Cf. Table 52).

Table 52. Country of professional address of first authors of articles published by *Therapie Familiale* (1992-1994).

Volume, number, year	Country of professional address of first author	
Vol. 13, 1, 1992	Belgium - 2 Italy	France Switzerland
Vol. 13, 2, 1992	Belgium Italy Switzerland	Canada Spain USA
Vol. 13, 3, 1992	Belgium - 10 Canada	
Vol. 13, 4, 1992	Belgium Switzerland	France - 2
Vol. 14, 1, 1993	Canada Italy Switzerland	France - 3 Norway
Vol. 14, 2, 1993	Belgium 4 Holland Portugal	Canada Italy
Vol. 14, 3, 1993	Belgium Spain USA	France Switzerland
Vol. 14, 4, 1993	Belgium - 3 United Kingdom	Canada France
Vol. 15, 1, 1994	Belgium - 1 Switzerland - 4	France
Vol. 15, 2, 1994	France USA	Belgium
Vol. 15, 3, 1994	France - 4 Switzerland	Italy
Vol. 15, 4, 1994	Argentina France - 3 Norway	Belgium Italy Spain

# Institutions where the research took Place

The institutions most frequently named as professional address of first authors were Universities (39 mentions). Among the diverse Universities mentioned Louvain University stands out with 17 mentions, that is 23% of all professional addresses (Cf. Table 53). Institutes and Centers obtained 10 mentions, Hospitals and Clinics 4. The category Private Practice was observed in 9 situations.

Table 53. Institutions where the reported research took place as expressed in articles of *Therapie Familiale* (1992-1994).

Institution	Vol.13, 1	Vol.13, 2	Vol.13, 3	Vol.13, 4
University	Rome Univ.; Louvain Univ.- 2.	Widener Univ.- Pennsylvania.	McGill Univ.; Louvain Univ.-8.	Nice Univ.; Louvain Univ.-2.
Hospitals and Clinics	0	Hopital St. Jacques.	0	0
Institutes and Centers	Centre de recherche familiale et systemique- Neuchatel; Institut de recherche sur les interactions systemiques- Bourg-la-Reine.	Centro di terapia familiare et di ricerca - Milan.	0	0
Private Practice	0	0	1	1
Others	Service de sauvegard de l'enfance.	0	Ecole normale pour institu- teurs Bruxelles.	Student in training.
Not stated	1	3	0	0

Continued, next page.

Table 53. Continued.

	Vol.14, 1	Vol.14, 2
Institution	Paris - Nanterre.	Louvain Univ.- 3; Liege Univ.; Lisbon Univ.; "La Sapienza" Univ.-Rome.
University	Centre Hospitalier Paul Guiraud- Villejuif.	0
Hospitals and Clinics	Accademia di psicoterapi a della famiglia- Rome; centro di terapia familiare e di ricerca- Milano; Institut de pensee systemique applique- Oslo.	Giambatista Vicco Institute- Amsterdam.
Institutes and Centers	1	0
Private Practice	0	0
Others	1	0
Institution	Vol.14, 3	Vol.14, 4
University	Massachusetts Univ.; Louvain Univ.; Barcelona Univ.	Liege Univ.; McGill Univ.
Hospitals and Clinics	0	Service Hospitalo- Universitaire Le Vinatier.

Continued, next page.



Table 53. Continued.

Institutes and Centers	0	0
Private Practice	0	2
Others	E.P.S. de Ville- Evrard. 1	Norfolk Social Services, UK. 0

Institution	Vol.15, 1	Vol.15, 2
University	Louvain Univ.; Liege Univ.	Univ. Louis Pasteur- Strasbourg.
Hospitals and Clinics	0	0
Institutes and Centers	Departement Interdisciplina ire de Recherche en therapie interactionelle -Marseille.	0
Private Practice	1	1
Others	Service medico- pedagogique Valaisan-Sion; Service Medico- Pedagogique- Geneve; Association "Appartenances" - Lausanne.	0
Not stated	0	1

Continued, next page.

Table 53. Continued.

Institution	Vol.15, 3	Vol.15, 4
University	0	Seville Univ.
Hospitals and Clinics	Centre Hospitalier St.-Cyr-au-mont-d'Or.	0
Institutes and Centers	Centre Medico-Psychologique-Avranches.	Institut de pensee systemique appliquee-Oslo; Institute d'etudes de la famille et des systemes humaines; Centre de Counsultation et de <i>Therapie Familiale</i> -Clermont-Ferrand.
Private Practice	1	1
Others	Centre d'orientation et action educative-Chambery; Istituto Europeo di formazione e consulenza systemica.	Fundacion Interfas-Buenos Aires; Accademia di psicoterapia della famiglia - Rome; Association Francaise de recherches en ethologie clinique et anthropologique.
Not stated	1	0

## Key words in the title of Articles

The most frequent category for words used in titles of articles was Concepts. This category was followed by Methods, Family/ies, Diagnostic Categories and Couples/Marital (Cf. Table 54).

Table 54. Key words in the title of the articles in *Therapie Familiale* (1992-1994).

Vol.13, 1, 1992

Vol.13, 2, 1992

<b>Family(ies)</b>	<b>Family(ies)</b>
- Incest and systemic approach.	- A cure through anger.
<b>Marital/Couples</b>	<b>Marital/Couples</b>
- In vitro fertilization and couples therapy.	<b>Diagnostic Categories</b>
<b>Diagnostic Categories</b>	- Immigration and mental illness;
	- Homeless and resourceless people.
<b>Concepts</b>	<b>Concepts</b>
- Reflection on psychosomatic expression of behavior;	- Systemic approach and sociopolitical contexts.
- Matriarchal mythologies.	<b>Methods</b>
<b>Methods</b>	- Use of genograms in training.
- Sculpture of the future as systemic intervention;	
- Assessment of 15 years of systemic practice.	

Continued, next page.

Table 54. Continued.

Vol.13, 3, 1992	Vol.13, 4, 1992
<div>Concepts</div> <div><ul style="list-style-type: none"><li>- Some sociocultural concepts of time;</li><li>- Time in the therapeutic process;</li><li>- Time in institution;</li><li>- Time in underprivileged families;</li><li>- The training time;</li><li>- the different time in human phenomenology and the biological and cultural time.</li></ul></div>	<div>Concepts</div> <div><ul style="list-style-type: none"><li>- The responsibility of the therapist.</li></ul></div> <div>Methods</div> <div><ul style="list-style-type: none"><li>- "One thousand plus one sessions" to exorcise death;</li><li>- The care of the abuser after a sexual abuse on a child;</li><li>- A supervision experience.</li></ul></div>
Vol.14, 1, 1993	Vol.14, 2, 1993
<div>Family(ies)</div> <div>Marital/Couples</div> <div><ul style="list-style-type: none"><li>- Couples crisis and the trigerational family;</li><li>- Love and hate in a couple;</li><li>- The 'normal' and 'idealized' couple;</li><li>- Sterility and the couple.</li></ul></div> <div>Methods</div> <div><ul style="list-style-type: none"><li>- Circular questioning.</li></ul></div>	<div>Family(ies)</div> <div><ul style="list-style-type: none"><li>- The contemporary family;</li><li>- Family rituals and their function.</li></ul></div> <div>Diagnostic Categories</div> <div><ul style="list-style-type: none"><li>- Research in chronic psychosomatic disturbances.</li></ul></div> <div>Concepts</div> <div><ul style="list-style-type: none"><li>- Research "both/and";</li><li>- from locus of control to family representation;</li><li>- Study of autonomous psychotherapeutic processes.</li><li>- Video assisted naturalistic observation in families;</li><li>- Prolactin and behavior;</li><li>- The postponed diet as intervention.</li></ul></div>
	Continued, next page.

Table 54. Continued.

Vol.14, 3, 1993

Vol.14, 4, 1993

<b>Concepts</b> <ul style="list-style-type: none"><li>- Social network as boundary of systemic therapy;</li><li>- Family therapy and institution;</li><li>- Family therapists and their institution.</li></ul>	<b>Concepts</b> <ul style="list-style-type: none"><li>- The human milieu;</li><li>- How do we understand empathy systematically ?;</li><li>- Family expressed emotion.</li></ul>
<b>Methods</b> <ul style="list-style-type: none"><li>- Team supervision.</li></ul>	<b>Methods</b> <ul style="list-style-type: none"><li>- An experiment in primary prevention;</li><li>- Intervention under mandate.</li></ul>

Vol. 15, 1, 1994

Vol. 15, 2, 1994

<b>Concepts</b> <ul style="list-style-type: none"><li>- Inducing a negentropic process;</li><li>- Similarities between families of origin and institutions in the care of schizophrenia;</li><li>- Using the school of systems theory to solve its problems;</li><li>- From a construct of disturbed functions to a construct of health;</li><li>- The human milieu II.</li></ul>	<b>Diagnostic Categories</b> <ul style="list-style-type: none"><li>- Approach to speech difficulties.</li></ul> <b>Concepts</b> <ul style="list-style-type: none"><li>- Towards the differentiation of the self in one's own family.</li></ul> <b>Methods</b> <ul style="list-style-type: none"><li>- Intervention under mandate II.</li></ul>
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Continued, next page.



Table 54. Continued.

Vol. 15, 3, 1994	Vol.15, 4, 1994
<b>Family(ies)</b>	<b>Family(ies)</b>
<ul style="list-style-type: none"><li>- From hospitalization to family;</li><li>- Family mediation in divorce cases;</li><li>- Systemic approach to child neglect.</li></ul>	<ul style="list-style-type: none"><li>- The family: ogre, religion or stunning homemade product;</li><li>- Families: multidimensional systems.</li></ul>
<b>Concepts</b>	<b>Diagnostic Categories</b>
<ul style="list-style-type: none"><li>- The art of clairvoyance.</li></ul>	<ul style="list-style-type: none"><li>- Choosing diagnosis and therapy.</li></ul>
<b>Methods</b>	<b>Concepts</b>
<ul style="list-style-type: none"><li>- Congratulating as intervention.</li></ul>	<ul style="list-style-type: none"><li>- The game and the rules;</li><li>- The double bind between man and animals.</li></ul>

Study of scientific collaboration in *Therapie Familiare*  
(1992-1994)

In what concerns the dimension single versus co-authored articles it was observed that from the total 83 articles 48 were single authored (57.8%).(Cf. Table 55).

Table 55. Number of individual authored and co-authored articles in *Therapie Familiale* (1992-1994).

	Vol. 13,1	Vol. 13,2	Vol. 13,3	Vol. 13,4
1 author	2	3	12	4
2 authors	2	2	0	1
3 authors	2	0	0	0
4 authors	0	0	0	0
5 authors	0	0	0	0
6 authors	0	0	0	0
> 6 authors	0	1	0	0

	Vol. 14,1	Vol. 14,2	Vol. 14,3	Vol. 14,4
1 author	6	4	4	3
2 authors	1	2	1	2
3 authors	0	1	0	0
4 authors	0	0	0	1
5 authors	0	0	0	0
6 authors	0	0	0	0
> 6 authors	0	1	0	0

Continued, next page.

Table 55. Continued

	Vol. 15,1	Vol. 15,2	Vol. 15,3	Vol. 15,4
1 author	3	2	3	5
2 authors	3	0	2	2
3 authors	1	0	0	1
4 authors	1	1	2	0
5 authors	0	0	0	0
6 authors	0	0	0	0
> 6 authors	0	0	0	0

In terms of institutional collaboration it was possible to observe 7 cases of collaboration among authors whose professional address belonged to different institutions (Cf. Table 56).

Table 56. Scientific institutional collaboration: Different professional addresses of co-authored articles in *Therapie Familiale* (1992-1994).

Vol. 14,1	vol. 14,2	Vol. 14,3	Vol. 14,4
1. Institut de Pensee Systemique Appliquee and Oslo Univ. (Norway).	1. Instituto Português de Oncologia and Sociedade Portuguesa de Terapia Familiar (Portugal).	0	0

Continued, next page.

Table 56. Continued.

Vol. 15,1	Vol. 15,2	Vol. 15,3	Vol. 15,4
1. Louvain Univ. and Ecole de Sante Publique - Bruxelles, Belgium.		1. Istituto Europeo di Formazione e Consulenza Systemica (Rome) and Administration Provinciale de Cagliari- Italy.	1. Accademia di Psicoterapia della Famiglia (Rome) and Hopital de Bolzano-Italy.
2. Service Medico- Pedagogique (Geneve) and Institut de Formation Systemique (Fribourg)- Switzerland.			
3. Liege Univ. and Centre "Ferme du soleil"- Belgium.			

In what concerns the international collaboration the study of *Therapie Familiare* articles (1992-1994) carried out showed no evidence of this dimension.

Patterns of Acknowledgment

Five acknowledgments were observed, involving 10 people. The content of the acknowledgment refers to particle collaboration in the research reported, feed back given on earlier versions of the manuscript. In one case "confidence" in the author was the content of the acknowledgment observed (Cf. Table 57).

Table 57. Patterns of acknowledgment observed in *Therapie Familiare* (1992-1994).

Volume, number, year	Number	To whom? For what?
Vol. 13,1	1	Acknowledgments are expressed to one person for her support on given information about Greek mythology.
Vol. 13,4	1	The authors wishes to express his acknowledgments to his colleagues, particularly two people for their help in writing the manuscript.
Vol. 14,2	1	The author acknowledges one person for his feed back on another version of the text.
Vol. 15,1	1	The author acknowledges 3 people for their confidence.
Vol. 15,4	1	The author acknowledges 2 people for their collaboration and one person for her translation.
Total:	5 acknowledgements, made to 10 people.	



## Grants and Awards

Seven grants were observed during the period under analysis. All of them had as origin specific scientific government departments from 4 countries (Cf. Table 58).

Table 58. Number and origin of grants and awards reported in the articles of *Therapie Familiale* (1992-1994).

Volume, number, year	Amount of grants or awards	Institution
Vol. 13,1	1	Research grant from Commission Communautaire de Bruxelles-Capitale; (Belgium).
Vol. 14,1	4	Research grants from: Norway Research Council; Josef Haldis Andresens legacy; Norsk Kuimmers Saintets Forening; Johan Pabonnens Stuftelse; (Norway).
Vol. 14,4	1	Research grant from: Comission Communautaire Francaise de Bruxelles.
Vol. 15,1	1	Funds National de Recherche Scientific (Switzerland).

Comparisons among the journals Analyzed

This chapter will end with a summary of all the results of the bibliometric and citation analysis carried out with *Family Process* (1962-1964 and 1992-1994), the *Journal of Family Psychology* (1992-1994) and *Therapie Familiale* (1980-1982 and 1992-1994). These results are presented in Table 59. and are followed by an analysis of their meaning to the scientific knowledge of the fields of family therapy and family psychology.

Table 59. Summary of the results obtained with the Bibliometric and Citational Analysis.

1. Number of articles published

Family Process		Journal of Family Psychology	Therapie Familiale	
1962-1964	1992-1994	1992-1994	1980-1982	1992-1994
63	103	98	75	83

2. Average number of references per article published

Family Process		Journal of Family Psychology	Therapie Familiale	
1962-1964	1992-1994	1992-1994	1980-1982	1992-1994
9.98	34.4	38.8	13.1	14.8

Continued, next page.

Table 59. Continued.

3. Gender of first author

Family Process		Journal of Family Psychology	Therapie Familiale	
1962-1964	1992-1994	1992-1994	1980-1982	1992-1994
Female: 5	37	33	21	29
Male: 51	56	55	34	37
Unknown:7	10	10	20	17

4. Gender of authors and co-authors

Family Process		Journal of Family Psychology	Therapie Familiale	
1962-1964	1992-1994	1992-1994	1980-1982	1992-1994
Female: 10	81	86	21	45
Male: 78	114	116	52	47
Unknown: 9	17	27	26	44

5. Country of professional address of first author

Family Process		Journal of Family Psychology	Therapie Familiale	
1962-1964	1992-1994	1992-1994	1980-1982	1992-1994
USA-57	USA-77	USA-89	France,	France,
Others-5	Others-16	Others- 9	Belgium,	Belgium,
			Switzerland	Switzerland-
			-42;	51;
			Others-18.	

6. Institutions where the research took place

	Family Process		J.F.P.	Therapie Familiale	
	1962-1964	1992-1994	1992-1994	1980-1982	1992-1994
Univer-	23	53	85	11	39
sities					
Hospitals	11	8	2	11	4
and Clinics					
Institutes	9	16	6	18	10
and Centers					
Private	5	11	1	1	9
Practice					

Continued, next page.

7. Scientific collaboration

7.1. Percentage of single authored articles

Family Process		Journal of Family Psychology	Therapie Familiale	
1962-1964	1992-1994	1992-1994	1980-1982	1992-1994
71.4%	42.7%	28%	76%	61.4%

7.2. Institutional collaboration

Family Process		Journal of Family Psychology	Therapie Familiale	
1962-1964	1992-1994	1992-1994	1980-1982	1992-1994
3	12	24	1	7

7.3. International collaboration

Family Process		Journal of Family Psychology	Therapie Familiale	
1962-1964	1992-1994	1992-1994	1980-1982	1992-1994
0	3	2	0	0

8. Patterns of acknowledgement

Family Process		Journal of Family Psychology	Therapie Familiale	
1962-1964	1992-1994	1992-1994	1980-1982	1992-1994
11	45	53	0	5

9. Grants and awards

Family Process		Journal of Family Psychology	Therapie Familiale	
1962-1964	1992-1994	1992-1994	1980-1982	1992-1994
22	49	79	1	7

## Conclusions

The bibliometric and citational data gathered and the observations made confirm the evolution of the family therapy field with respect to the journals analyzed. The findings are also convergent with the main conclusions of bibliometry literature concerning the evolution of the variables studied as measures of disciplinary development. For instance, the "Number of articles published", the "Average number of references per article published", the three indexes of scientific collaboration (i.e. percentage of co-authored articles, institutional collaboration and international collaboration), the patterns of acknowledgement and the amount of grants and awards registered, all increased with the development of the discipline.

A similar evolution was observed with respect to the gender distribution of authors in the family therapy journals analyzed. The development of the discipline seems to be directly related with a movement towards a balanced distribution of the gender of authors and co-authors.

When comparing the countries of professional address of the authors, the influence of the United States on *Family Process* and the *Journal of Family Psychology* stands out.



However, this influence seems to be diminishing in favour of a more international/universal collaboration. From the initial 90.4% of first authors being located in the US, *Family Process* evolved to 75% in the period 1992-1994. Interestingly, the percentages for the *Journal of Family Psychology* in the first three years of publication were quite similar to the ones of *Family Process* (90.9%). In contrast, the influence of French speaking countries on the journal *Therapie Familiale*, increased recently from the initial 56% to 61%.

The institutional location most referred to as the professional address of first authors is a University. This clearly indicates that the evolution of family therapy and family psychology is directly related with the academic setting. However, in the French speaking context, family therapy emerged (1980-1982) mostly with the support of private and public Institutes and Centers. The support of the universities are particularly relevant in terms of the discipline of family psychology. This observation confirms the research orientation of the family psychology discipline.

The dimensions of scientific collaboration observed (percentage of single versus co-authored articles, institutional collaboration and international collaboration)

confirm the evolution of family therapy and the research oriented characteristic of family psychology. In fact, the percentage of single authored articles diminished as the discipline evolved and as the research became more empirical, as observed in the citational and bibliometric analysis. In parallel, the *Journal of Family Psychology* also showed a significant percentage of institutional collaboration. The international scientific collaboration, as previously defined, is almost non existent in the two fields studied.

The patterns of acknowledgement and the grants and awards observed are convergent with the other dimensions analyzed. They are significantly higher in the family psychology field, which might be explained by the emphasis of the mentioned discipline in empirical methods. Simultaneously, the differences between the values found in the journal *Therapie Familiale* relatively to *Family Process* and *Journal of Family Psychology*, point clearly to a contrast in the role played by the mentioned journals in the respective contexts of scientific communication.

## CHAPTER 5

### NETWORK ANALYSIS

The network analysis describes the groups of authors and lines of research most prominent in the fields of family therapy and family psychology for the time periods from 1962 to 1965, and 1992 to 1994, respectively. The study took as a starting point the analysis of the articles published in *Family Process* and *Journal of Family Psychology*, during the above referred time periods. This is so because those were the periods when the first volumes of *Family Process* and *Journal of Family Psychology* were published. In this way, the analysis of the most visible groups of authors and subjects of research during the emergence of the field is made possible.

The network analysis includes diverse methods intended to describe the set of social actor's relationships in a specific context or area (Shrum & Mullins, 1988). The studies carried out using network analysis of science usually take as unit of analysis the individual researcher or author (Shrum & Mullins, 1988). In the network analysis carried out, the individual author is also taken as the most significant unit of analysis but his/her work is seen in the context of a research team or line of research in which she or he takes part. In terms of procedure used the above

described steps were performed in part emulating the works carried out by Price (1966) and Ben-David & Collins (1966). This was done in order to identify the authors, teams and lines of research most visible and prominent in the context of the two analyzed fields, coincidentally with their emergence. The steps of the procedure were done in the following manner.

a) The names of all authors who authored or co-authored one or more articles published in the journals *Family Process* and *Journal of Family Psychology* were registered;

b) From that universe the names which appear at least three times were selected as influential to the field, following Woolgar's (1976) baseline for decisive individual contribution in a scientific context;

c) The authors selected were aggregated in the teams of co-authors with whom they published, if they were not single authors;

d) The subjects of research were then reported.

The procedure described enabled identifying, not only the most visible authors in each of the studied fields, but also the line of research which they developed. The results achieved for the two areas are described in the next section.



Network analysis of the family therapy field based on  
the articles published by *Family Process* (1962-1966)

The network analysis of the journal *Family Process* carried out, showed 4 main lines of research during the emergence phase of family therapy (Cf. Tables 60, 61, 62 and 63) .

Table 60. Nathan Ackerman's scientific production and collaboration in *Family Process* (1962-1966) .

Author	Institution	Subject of research
Nathan Ackerman (1962)	Columbia Univ.	Family Psychotherapy and Psychoanalysis
Nathan Ackerman (1962)	Columbia Univ.	Adolescent problems : A Symptom of Family Disorder.
Sherman, Ackerman, Sherman & Mitchell (1962)		Non Verbal Cues in Family Therapy



Table 61. Daniel Miller's scientific production and collaboration in *Family Process* (1962-1966).

Author's team	Institution	Subject of Research
Carrol, Cambor, Leopold, Miller & Reis (1963);	Walter Read Hospital- Washington and Univ. of Pittsburgh;	Psychotherapy of marital couples;
Miller & Westman (1964);	Univ. of Michigan;	Reading Disability as a Condition of Family Stability;
Miller & Westman (1965);		Family Team work and Psychotherapy.

Table 62. Jay Haley's scientific production and collaboration as expressed by *Family Process* (1962-1966).

Author's team	Institution	Subject of Research
Haley (1961);	MRI;	Whither Family Therapy;
Haley (1962);	MRI;	Family Experiments: A New Type of Experimentation;
Bateson, Jackson, Haley, Weakland (1962).	MRI.	A Note on the Double Bind.

Table 63. Gerald Zuk's scientific production and collaboration in *Family Process* (1962-1966).

Author's team	Institution	Subject of Research
Zuk, Boszormenyi-Nagy & Heiman (1963);	Eastern Psychiatric Institute, Philadelphia;	Some Dynamics of Laughter in family therapy;
Zuk (1964);	Eastern Psychiatric Institute, Philadelphia;	A Further Study of Laughter in family therapy;
Zuk (1965);		On the Pathology of Silencing Strategies;
Zuk (1966);		The Go Between Process in family therapy.

Network analysis of the family psychology field based on the  
articles published by *Journal of Family Psychology*  
(1992-1994)

The network analysis carried out in the *Journal of Family Psychology* (1992-1994) identified five lines of research described on Tables 64, 65, 66, 67 and 68. Besides the authors who were most prolific the content of research is given through the title of articles. The main institutions involved were also identified.

Table 64. Jay Bray's scientific production and collaboration in *Journal of Family Psychology* (1992-1994).

Author	Institution	Subject of research
Bray (1992);	Baylor College of Medicine.	Family Relationships and Childrens Adjustment in Clinical and Nonclinical Stepfather Families;
Bray & Harvey (1992);		Intimacy and Individuation in Young Adults: Development of the Young Adult Version of the Personal Authority in the Family Systems Questionnaire;
Bray & Hetherington (1992);		Families in Transition: Introduction and Overview;
Bray & Berger(1994);		Developmental Issues in Stepfamilies Research Project: Family Relationships and Parent-Child Interactions;
Bray (1994)		Does One Plus One Make Two or One? A Comment on Fine and Kurdek (1994).

Table 65. Mark Fine's scientific production and collaboration in *Journal of Family Psychology* (1992-1994).

Author	Institution	Subject of research
Fine, Kurdek & Hennigen (1992);	Dayton State Univ.	Perceived Self-Competence, Stepfamily Myths and (Step)parent Role Ambiguity in Adolescents From Stepfather and Stepmother Families;
Kurdek & Fine (1992);		Parent and NonParent Residential Family Members as Providers of Warmth and Supervision to Young Adolescents;
Fine, Voydanoff & Dornelly (1993);		Relationships Between Parental Control and Warmth and Child Well-Being in Stepfamilies;
Fine & Kurdek (1994);		Publishing Multiple Journal Articles From a Single Data Set: Issues and recommendations.

Table 66. Lawrence Kurdek's scientific production and collaboration in *Journal of Family Psychology* (1992-1994).

Author's team	Institution	Subject of research
Fine, Kurdek & Hennigen (1992);		Perceived Self-Competence, Stepfamily Myths and (Step)Parent Role Ambiguity in adolescents From Stepfather and Stepmother Families;
Kurdek (1992);	Wright State Univ.	Dimensionality of the Dyadic Adjustment Scale: Evidence From Heterosexual and Homosexual Couples;
Kurdek (1992);		Assumptions Versus Standards: The Validity of Two Relationship's Cognitions in Heterosexual and Homosexual Couples;
Kurdek (1992);		Nature and Prediction of Changes in Marital Quality for First-Time Parent and NonParent Husbands and Wives;
Kurdek & Fine (1993)		Parent and Non Parent Residential Family Members as Providers of Warmth and Supervision of Young Adolescents.



Table 67. Blaine Fowers and David Olson's scientific production and collaboration in *Journal of Family Psychology* (1992-1994).

Author's team	Institution	Subject of research
Fowers & Olson (1992);	Univ. of Miami and Univ. of Minnesota	Four types of Premarital Couples: An Empirical Typology Based on PREPARE;
Fowers & Olson (1993);		ENRICH Marital Satisfaction Scale: A Brief Research and Clinical Tool;
Fowers, Applegate, Olson & Pomerantz (1994);		Marital Conventionalization as a Measure of Marital Satisfaction: A Confirmatory Factor Analysis.

Table 68. E. M. Hetherington scientific production and collaboration in *Journal of Family Psychology* (1992-1994).

Author's Team	Institution	Subject of research
Bray & Hetherington (1993);		Families in Transition: Introduction and Overview;
		Continue, next page.

Table 68.  
Continued.

Hetherington (1993);	An Overview of the Virginia Longitudinal Study of Divorce and Remarriage With a Focus on Early Adolescence;
Hetherington (1994);	Siblings, Family Relationships and Child Development: Introduction;
Anderson, Hetherington, Reiss & Howe (1994);	Parents Nonshared Treatment of Siblings and the Development of Social Competence During Adolescence.

### Conclusions

From the network analysis of the family psychology field carried out having as the source of data the articles published by the *Journal of Family Psychology* during the time period from 1992 to 1994, several conclusions may be formulated. For the moment, I will distinguish four levels:

- a) A first level, referring to individual authors;
- b) A second one referring to institutional support;
- c) A third level referring to contents and lines of research;

d) Finally, a level referring to editorial policies.

Concerning the individual authors level of analysis the first finding refers to the amount of authors who authored and co-authored articles. There were 232 authors, who produced a total of 94 articles. From the referred number of authors, only 6 contributed with at least three articles, achieving the baseline define by Woolgar (1976) as the minimum number of articles for an individual author to have a significant contribution in a given scientific field. The referred six authors (e.g. Bray, Fine, Fowers, Hetherington, Kurdek, and Olson) contributed 18 of the 94 published articles. This finding may be seen in continuity of the Bradford Law, often referred to in bibliometrics and citation analysis literatures, which establishes a relationship between the total amount of articles published and the total number of authors. In the family psychology field 2,5% of authors wrote 19% of the articles published.

At the institutional level of analysis the collaboration between Universities is the most significant finding. This collaboration refers to the alliance between members of Dayton State University and Wright State University which produced 4 co-authored articles. The second most productive inter institutional collaboration found refers to the alliance between the University of Miami and

the University of Minnesota which produced a total of 3 co-authored articles.

In terms of the content of research made visible by the network analysis five major lines of research were observable. The first is given by the research reported on the work with stepfamilies. However, while a first line of inquiry reported research in terms of individuality and autonomy, a second one sought to establish the conditions and circumstances of parental control of those families. A third line of research is coincident with the work of Lawrence Kurdek and includes the research on the Dyadic Adjustment scale, homosexual and heterosexual couples and changes in marital quality. The team constituted by Blaine Fowers and David Olson specialized in the research of instruments as PREPARE and ENRICH. Finally, E. M. Hetherington reported research on divorce and remarriage and the non-shared treatment of siblings.

A final note on the editorial policy shown by the *Journal of Family Psychology* and discernible in the reported network analysis. The editorial initiatives such as the definition of Special Sections and Comments/Reply seemed very much connected to the set of highly productive and influential authors in the field. In fact from the 6 selected authors previously mentioned, 2 participated as editors of 3 special sections published.

Simultaneously, the content of the special section edited during the time period under analysis coincide in a large extent with the lines of research of the highly productive authors. It seems particularly important to stress the findings concerning the influence of a small group of highly productive authors in the field. Their influence may be visible not only because of the importance of the research selected but also because of the continuous publication of research. Closing the circle, the members of this elite group of scientists (Cole & Cole, 1973) are those who most probably are invited by the journal editor to coordinate special sections and journal issues.



## CHAPTER 6

### CONTROVERSIES ANALYSIS OF *FAMILY PROCESS* (1962-1994) AND *JOURNAL OF FAMILY PSYCHOLOGY* (1987-1994)

Using as a point of departure the studies of controversies reviewed in chapter 2, and adopting the *sui generis* method that consists in using a quasi-bibliometric definition of controversy - i.e. controversy in a scientific context is defined by the emergence of a sequence of the type "article-reply or comments-rejoinder" in a scientific journal - I proceeded to the analysis of controversies in the fields of family therapy (using *Family Process* and *Therapie Familiale*) and family psychology (using *The Journal of Family Psychology*).

The results of this analysis are shown in Tables 69, 70 and 71 (for *Family Process*), and in Tables 72, 73 and 74 (for the *Journal of Family Psychology*). In what respects the journal *Therapie Familiale*, no controversy was observed.

The categories of analysis were selected in accordance with the literature review done. For example, the first category selected consists in the classification of the content of the controversy in terms of principle, fact or theory, following the work done by McMullin (1987). The controversies of fact refer to the existence of opposing

views concerning the least abstract level of analysis, for instance the observation and interpretation of data. For example, the "canals of Mars" controversy took place circa 1890 among the astronomers scientific community. The posterior invention and use of powerful telescopes put an end to the polemics concerning the interpretation of the observations previously made. The second category consists in theory controversy. In this controversy type, the most distinctive feature concerns a situation where two or more theories account for the same problem. The principle controversies refer to a situation in which the issue in question is more general and abstract than the theory level. Ethical, epistemological, and political debates in the scientific context are the most common examples of this level of controversy.

The second dimension taken in consideration for the study of controversies in family therapy and family psychology is the gender of controversies participants.

### Family Process Controversies

During the time period under analysis (1962-1994) 34 controversies were observed in the journal *Family Process* (Cf. Table 69). The participants gender was distributed as

following: 16 females, 88 males (Cf. Table 70). In one situation it was not possible to assign a specific gender category to the controversy participant.

Table 69. Controversies in *Family Process*(1962-1994).

Contro- versy number	Volume, number year	Content and type	Participants
1	1964	Family Experiments; Principle.	J. Haley; Frederic Schlamp; J. Weakland.
2	1967	Speech Sequences; Fact.	J. Haley; Andrew Ferber; C. Beels.
3	1969	Family Therapy: a view; Fact.	C. Beels; Andrew Ferber; F . Harris; L. Wynne; J. Framo.
4	1970	Diagnostic in Turkey; Fact.	Richard Gardner; G. Vasaliou; Orhan Ozturk.
5	1976/77	Owning and Disowning/ Structural Dimension; Theory.	Helm Sterlin; Jeffry Klugman.
6	1977	Classification of Family Therapy Theories; Theory.	Michele Ritterman; J. Weakland.
7	1978/ 1980	Results of Family Therapy; Fact.	Richard Welles; Alan Dezen; D. Stanton; T. Todd.

Continued, next page

Table 69. Continued.

8	1978	Structural Family Therapy; Fact.	D. Heard; R. Evans.
9	1981	Irreverent Thoughts on Paradox; Theory.	P. Dell; Ed. Jesse; Luciano L'Abate; Mara Pallazoli; Paul Watzlavick.
10	1981	Family Therapy with Irish-Americans; Fact.	M. McGoldrick; John Pearce; Margaret Byrne.
11	1983	Outcomes of Brief Strategic Family Therapy; Fact.	J. Santa Barbara; E. Soucar.
12	1984	Family as an Ecology of Ideas; Principle.	J. Bogdan; Daniel Miller.
13	1984	Adverse Effects of Family Therapy; Fact.	Kenneth Terkelson; Henry Grunebaum.
14	1984	Analogue Research; Fact.	Janet. Beavin; A. Gurman.
15	1984	How Really Real Is Real? Principle.	B. Speed; P. Watzlavick.
16	1984	Family Development Stages; Theory.	Charles Proudfit; Celia Falicov.
17	1984	Death of Resistance; Theory.	Steve de Shazer; Susan Stewart; Carol Andersen.
18	1984	Family Therapy with Deaf Persons; Fact.	James Harvey; Sam Scott.

Continued next page

Table 69. Continued.

19	1985	Measurement of Family Functioning; Theory.	Ann Sigafos; David Reiss; Douglas Errol; Jessica Rich; David Olson.
20	1985	Beavers-Timberlawn and Circumplex Models of Family Functioning; Theory.	Green; Kolenzov; Vosler; Beavers; Hempson; Hulges.
21	1985	Family Therapy Ethics; Principle.	Ivan Nagy; Donald Wendorf; Robert Wendorf.
22	1985	Instability in the Alcoholic Marriage; Theory.	Peter Steinglass; Lydia Tislenko; David Reiss; Edward Kaufman.
23	1985	Epistemology and Epistemologies; Principle.	Von Foerster; Barbara Held; Edward Pols.
24	1986	Individual Marital Therapy; Theory.	Richard Wells; Vincent Gianneti; Alan Gurman; David Kniskern.
25	1987	Gender in Family Therapy Theory; Principle.	Rachel Hare-Mustin; Edward Auerswald;
26	1987	Jargon... and Other Pests; Principle.	Bryan Lask; Paul Watzlavick; Carlos Sluzki.
27	1988	Second Order Family Therapy; Principle.	Stuart Golan; Lynn Hoffman.
28	1990	Second Order Family Therapy; Principle	B. Atkinson; A. Heath; Harlene Anderson; Harold Goolishian.

Continued, next page.



Table 69. Continued.

29	1990	Self Disclosure of Personal Constructs; Theory.	Edward Waring; Mony Elkaim.
30	1990	Family Therapy Training; Fact.	A. Perlesz; Y. Stolk; F. Andrew.
31	1990	Family Assessment: The Case of the Family Environment Scale; Fact.	Mark Roosa; J. Beals; Rudolf Moos.
32	1991	Evaluating Faces III and the Circunplex Model; Fact.	Robert Green; Robert Harris; James Forte; David Olson.
33	1993	The Notion of Hierarchy; Theory.	George Simon; Virginia Goldner; Nichols Atkinson.
34	1994	The Circunplex Model; Theory.	Cluff; Hicks; Madsen; Olson.

### Gender of Participants

A total of 105 persons participated in controversies published by the journal *Family Process*(1962-1994). The gender of controversies participants were as following: 16 female authors, 88 male authors. In one situation it was not possible to assign a gender specific category to a participant (Cf. Table 70).

Table 70. Gender of participants in *Family Process* controversies (1962-1994).

<u>Number of participants</u>	<u>female</u>	<u>male</u>	<u>unknown</u>
105	16	88	1

Type of Controversies

The 34 controversies observed in *Family Process* (1962-1994) were classified as following: 9 principle controversies, 12 theory related controversies and 13 fact controversies (Cf. Table 71).

Table 71. Principle, theory and fact controversies in *Family Process* (1962-1994).

<u>Type of controversy</u>	<u>Number of controversies</u>
Principle	9
Theory	12
Fact	13

Journal of Family Psychology Controversies (1987-1994)

Since the first year of publication (i.e. 1987) 23 controversies were observed in the *Journal of Family Psychology* (Cf. Table 72).

Table 72. Controversies in *Journal of Family Psychology* (1987-1994).

Controversy number	Year	Content and Type	Participants
1	1987	Family Rating Scales; Fact.	Cindy Carlson; Harold Grotevant; Philip Cowan; James Coyne; Lawrence Fisher.
2	1987	Training Issues; Fact.	Jay Lebow; Lucy Ferguson; Donald Wendorf; Robert Wendorf.
3	1988	Long-term Adjustment of Children of Divorce; Fact.	Robert Emery; Kenneth Kressel; Lawrence Kurdek; Douglas Sprengle.

Continued, next page.

Table 72. Continued.

4	1988	Social Learning Family Therapy with Aggressive Children; Theory.	Thomas Sayger; Arthur Horne; John Walker; J. Lawrence Passmore; Alain Kazdin; Karen Schmaling; Neil Jacobson.
5	1988	Attachment and Divorce; Theory.	William Bernam; Joan Kelly.
6	1988	Cognitive Behavioral Interventions with Distressed Couples; Theory.	Emmelkamp; Heevoel; Rupman; Sanderman; Scholing; Stroing; Norman Epstein; Ronald Bancom.
7	1988	Parent-Child Relationships in Steparent Families; Fact.	Lawrence Samer; Mark Fine; Kay Pasley.
8	1988	Instrumentalism, Feminism and the Limits of Family Therapy; Principle.	Virginia Goldner; Morris Taggart.
9.	1988	Change Processes in Emotionally Focused Couples Therapy; Theory.	Leslie Greenberg; Paul James; Robert Conry; David Wile.
10	1989	Assessment of Competence in Families with a Retarded Child; Fact.	Robert Hampson; Yosef Hulgus; W. Robert Beavers Jeanette Beavers; Martha Foster.
11	1989	Assessment of Marital Satisfaction: the Dyadic Adjustment Scale; Fact.	Anne Kazak; Audre Jarmas; Lisa Snitzer; Graham Spanier; Linda Thompson.

Continued, next page.

Table 72. Continued.

12	1989	Perception of Normality in Families; Fact.	Anne Kazak; Katryn McCannel; Elizabeth Adkins; Paul Himmelberg; Janet Grace; Rudolf Moos; Candice Russel; Froma Walsh.
13	1989	Structured Diary Approach in Studying Marital Relationships; Fact.	Erich Kirchler; Anita DeLongis; Darrin Lehman.
14	1989	Limits of Family Therapy: Language Based Explanation; Principle.	Eugene Epstein; Victor Loos; Michael Nichols.
15	1989	Epistemology and Experience in the Practice of Family Therapy; Principle	Paul Falzer; Stuart Golam; Herta Guttman.
16	1989	Comparison of Views About Family Cohesion in Families; Theory.	S. Shirley Feldman; Kathryn Wentzel; Thomas Gehring; Jim Youniss.
17	1990	Resistance in Existential-Strategic Marital Therapy; Fact.	Judith Coché; Milo Benningfield.
18	1990	Use of Paradoxical Intervention with a Couple; Fact.	Elizabeth Holloway; Bruce Wampold; Mary Lee Nelson.

Continued, next page.



Table 72. Continued.

19	1990	Reappraisal of Cognition in Marriage and Marital Therapy; Theory.	Frank Finchan; Thomas Bradway; Steven Beach; James Coyne.
20	1991	Relationship Between Paternal Depressive Mood and Early Adolescent Functioning; Fact.	Amanda Thomas; Rex Forehand; Donald Vincent
21	1991	Gender Sensitive Object Relational Family Therapy with Depressive Women; Theory.	Nadine Kaslow; Alice Carter; Hyman Hips.
22	1992	Family Stress; Fact.	Stevan Hobfoll; Charles Spielberger; Pauline Boss; Anne Kazak.
22	1993	Primate Research and Family Politics; Theory.	Louise Silverstein; Susan Sperling; Jay Belski; Vicky Phars; Michael Lamb.
23	1994	Publishing Multiple Articles from a Single Data Set; Fact	Mark Fine; Lawrence Kurdek.

Gender of Participants

The gender of authors that participated in *Journal of Family Psychology* controversies were distributed as following: 29 female authors, 57 male authors. In 10 situations it was not possible to assign a specific gender category to participants (Cf. Table 73).

Table 73. Gender of participants in *Journal of Family Psychology* controversies (1987-1994).

Female	Male	Unknown
29	57	10

Type of Controversies

From the 24 controversies observed in the above mentioned journal, 13 were classified as fact controversies, 8 as theory controversies and 3 as principle controversies (Cf. Table 74).

Table 74. Principle, theory and fact controversies in *Journal of Family Psychology* (1987-1994).

Type of controversy	Frequency
Principle	3
Theory	8
Fact	13

### Conclusions

In terms of the controversies analysis, the main conclusion refers to the absence of controversies in one of the analyzed journals, *Therapie Familiale*. This seems to be a distinctive characteristic of the above mentioned journal. One may speculate about the epistemological root of this editorial option. In fact, this situation seems to fit the role of a journal which is located in a context where the dissemination of scientific information is taken as a singular priority. In this sense it would not be very adequate to disseminate information from a non-normal science, that is one which evolves through a controversy context.

For *Family Process* and *Journal of Family Psychology*, the differences found were salient in one dimension: *Family*

Process had a significant figure of male authors involved in controversies, while this figure was not significant for *Journal of Family Psychology*. However, the type of most frequent controversy was the same in the two above mentioned journals.

## CHAPTER 7

### ELECTRONIC COMMUNICATION IN MARITAL AND FAMILY THERAPY AND IN FAMILY STUDIES

In order to address issues related with the development of new media of scientific communication in the two fields studied, a survey was sent to the organizers of two electronic lists (Cf. Appendix): FAMLYSCI a list organized by Dr. Gregory Brock, from Kansas University, and MFTNET, a list organized by Dr. Cleveland Shields from Rochester University.

The two participants lists were also analyzed in order to investigate the amount of male and female participants and the institutions where they work.

#### Answers to the survey sent to electronic lists organizers in family therapy and family Studies

##### Question 1

One list (FAMLYSCI) has 820 participants and started in 1989. The other (MFTNET) has about 250 participants. Several factors seem to be associated with the rate of growth of the two lists. The older one had a slow rate when it started since by the time (1989) few professionals of the related



fields used E-mail. The organizer of the second list also pointed to an external source: An article about the list published in a Californian magazine had as consequence 200 more requests for subscription. Concerning the countries where the list participants are geographically located, estimates from the organizer of FAMLYSCI point to 5% of participants from outside the USA. More precisely, 20 in Europe and 20 in Australia, New Zealand and Singapore. The daily exchange of messages rate is 10-15 messages in FAMLYSCI and 2 or more in MFTNET.

## Question 2

The University of Rochester, in what respects MFTNET, and Kansas University in what respects FAMLYSCI subsidize the two lists, namely through the university computer centers.

## Question 3

The differences between the role of a journal editor and a electronic list organizer were pointed by one of the persons inquired (Dr. Gregory Brock). The role of the electronic list organizer, in his opinion, is not content oriented. Dr. Brock tried to stay away from a censoring or

content orienting function, although some participants of the list have been asking for a different positioning.

#### Question 4

The two list organizers agreed on the unique contribution that the two lists are doing in boosting the level of technical expertise of professionals in the fields of family studies and marital and family therapy. This impact is associated with the nature of the communication media: "There is nothing like a lively discussion on [ list name ] that prompts professionals to learn how to access the list".

#### Question 5

The participation of scientists and researchers from less industrialized countries was something that was not in the priorities of the list organizers. However, that has happened at least in FAMLYSCI.

#### Question 6

In what respects the views of list organizers about the role that electronic communication and conventional

scientific journals will acquire in the near future, the opinions are completely divergent. One of the list organizers states that the electronic communication will eclipse in less than 10 years the conventional scientific publishing activity. The other list organizer does not think that will happen, at least in the foreseeable future.

Question 7

The two list organizers have not planned any action in regards to the enhancement of non-English speaking therapist and researchers. The issue is seen as something to be accomplished either by the persons interested (e.g. the constitution of a Spanish speaking discussion list should be done by the persons interested), or as part of the role of professional associations.

Gender of participants of electronic Lists

When analyzing a list from MFTNET, updated in the 15th of February 1994, the gender composition of participants was the one described in Table 75.

Table 75. Gender distribution of MFTNET list participants.

<u>Female</u>	<u>Male</u>	<u>Unknown</u>
16	44	0

These figures considered, the female participants were 27%, while male participants were 73%.

For the FAMLYSCI list, the gender of participants in a list updated in January 1994 were distributed in the manner described in Table 76.

Table 76. Gender distribution of FAMLYSCI list participants.

<u>Female</u>	<u>Male</u>	<u>Unknown</u>
190	357	22

These figures considered female participants were about a third of all participants. The male participants of this list were 63% of all.

Institutional location of Participants

The institutional belonging of list participants was measured by the percentage of "EDU" extension at the E-mail addresses. In the MFTNET 44 of the 60 addresses had that extension (73%), while in the FAMSCI list 254 addresses had that extension (45%).

### Countries of the Participants

In the studied version of MFTNET list, the three countries identified as participants geographic location were the USA, Canada and Switzerland.

For the FAMLYSCI list the participants were from the USA, Canada, Holland, Finland, Australia, United Kingdom, Taiwan, Brazil, Italy, and Portugal.

### Conclusions

The data obtained points to three general circumstances worthing to consider. The first refers to the quick rate of growth of participants in the electronic lists analyzed. That rate indicates a general acceptance of the electronic media of communication in the scientific community. The second circumstance points to a continuity line between the electronic lists and journals analyzed in terms of participants gender and the institutions most frequently mentioned as location of the participants. The third conclusion refers to the differences among electronic lists organizers concerning the future role of the electronic communication in the respective scientific fields.



## CHAPTER 8

### CONCLUSIONS

The conclusions to be drawn from the set of studies carried out are going to follow the previously defined lines of analysis: the study of similarities and differences between the journals *Family Process*, *Journal of Family Psychology* and *Therapie Familiale* and the definition of some of the main characteristics of the electronic lists MFTNET and FAMLYSCI. Additionally, and assuming that the journals and electronic lists analyzed represent, at least partially, the corresponding scientific fields, several conclusions about the characteristics of the scientific communication in those fields are also addressed. Specifically, those questions include:

a) The main characteristics of the emergence and consolidation processes in the field of family therapy;

b) The comparison between the fields of family therapy and the emerging field of family psychology;

c) The process of dissemination of scientific information in the context of the French speaking community of family therapists and researchers;

d) The comparison of the emergence and consolidation of the two disciplines compared with others described in the sociology of science literature;

e) The evolution of scientific communication in the two mentioned fields, specially in what respects the impact of electronic media of communication.

Similarities and differences among the journals and  
lists Studied

The three journals studied (*Family Process*, *Journal of Family Psychology* and *Therapie Familiale*) have in common the circumstance of being associated with either the emergence of a new discipline (*Family Process* and *Journal of Family Psychology*) or the emergence of a new discipline in a different language context (*Therapie Familiale*). In fact, at least during certain specific time periods each of those three journals were identified with the field by the related community of professionals, therapists and researchers. That was the case in what respects *Family Process* during the sixties, relatively to the family therapy field. Similarly, *Therapie Familiale* was in the early eighties identified with the French speaking community related with family therapy. In what respects *The Journal of Family Psychology*, and given the recent emergence of family psychology, it still plays the role of being the foremost (and single) vehicle of dissemination of specific scientific information.

In what respects the analysis of differences and similarities between *Family Process* and the *Journal of Family Psychology*, the major characteristic that distinguishes the two is directly related with the specific history and role played by each journal. As a matter of fact, in a bibliometric and citational point of view the two journals are very similar. For instance, in what respects the studied variables "Number of articles published" and "Average number of references per article" no significant difference was found. However, in terms of the role played by each one of the journals in the context of the respective scientific communities, *Family Process* is an already established journal, being well known not only by the community of family therapists and researchers but also by the professionals of the related fields of psychiatry, social work, and other domains of the social sciences. Currently, this is not happening in what respects the *Journal of Family Psychology*. Actually, a further analysis of the content of citations of this latter journal would certainly reveal that its location relatively to the corresponding scientific literatures is different to the one of *Family Process*. The *Journal of Family Psychology* is certainly much more directly close to the psychology literature than *Family Process*. From a global point of view of the scientific literature, it seems that the cited

literature of the *Journal of Family Psychology* is mostly integrated in the literature of psychology, while *Family Process* developed through the years a citing profile which makes the family therapy literature, at least to a certain degree, autonomous relatively to other fields. However, in respect to the future impact of the two journals, it is most probable that *The Journal of Family Psychology* will take the leading role given the circumstance of having already in average more "References per article published" when compared with *Family Process*, during the time period 1992-1994. This prognostic is also based when taking into consideration the conclusion of diverse bibliometric studies carried out in different literatures, where we can see that the journals which cited other journals more often (and thus have a lower self-citing rate) became the journals which are cited the most. Based on the values observed in terms of the "Average number of references per article" from the *Journal of Family Psychology*, and assuming an overlap of this journal with the literature of psychology, it is most probable that it will obtain an important impact in the near future.

The second striking difference between the two analyzed journals is given by the dimension "Key words in the titles of articles". In fact, while they had an equivalent frequency of key words in the title of articles related with



the category "Family/ies" and "Marital/couples", the two differed in respect to the frequency of key words related to the category "Concepts" and "Methods". The first was more often observed in *Family Process*, while the latter was more frequently observed in the *Journal of Family Psychology*. This findings make sense if the history and specific phase of development of the two disciplines is taken into account. The similar amount of references of key words related with "Family/ies" and "Marital/couples" is understandable, given the object of study and intervention of the two disciplines. The key words somehow related with the category "Methods" are more frequent in the titles of the *Journal of Family Psychology*, given the newness of the field. Exactly because the two disciplines have a similar object of study and intervention, its differentiation tends to be done at the methodological level. The newer field tends to affirm its identity through the development of new methodological approaches, while the former evolves partly into a process of concepts revision and theory building. This situation is corroborated by the results of the controversies analysis carried out in the two fields. The amount of controversies at the theory level is higher for *Family Process*, than for *Journal of Family Psychology*, where fact controversies are more common. Also, according to the conclusions of the network analysis performed, the mentioned observation is



stressed by the circumstance that the two communities (family therapy and family psychology) are constituted by different researchers, at least with respect to their most "visible" authors. All things considered, the comparison of the two mentioned journals points to a situation that is not only characterized by the existence of two different disciplines in two different phases of development, but also constituted by two different scientific communities.

It seems that the impact of the increase of publishing activity of the researchers more closely related with one of the fields upon the other would benefit enormously both fields. However, it is not certain that this might happen in the near future given the general tendency to specialization and professional identity building occurring in parallel in the two domains. With the exception of a few cases of "founding fathers" of the family studies area such as David Olson and Lyman Wynne - who are prolific authors in both the family therapy and the family psychology fields - the authors tend to be integrated in one specific scientific community. However, the direct interchange of scientific information among authors and researchers from different fields of the family studies area is currently being enhanced by the emergence of the electronic media of communication. Given the recency of this media of communication it is difficult to assess all the consequences

it will have upon the two fields. Still, and according to the approach of sociology of science when applied to the development of scientific disciplines, it seems reasonable to preview that after an initial phase of constitution of a community of users of that media (the list participants), an electronic scientific journal (or even more than one) will emerge. In terms of discipline development the interesting question concerns its nature and profile since, contrary to the process of constitution of the different fields within the family studies area, there is no evidence of a new paradigm or research front as a basis for the journal foundation. Only the media is different. One thing is indisputable: the creation of an electronic journal will be a major event in the process of discipline development in the area of family studies.

In respect to the differences observed between *Family Process* and *Therapie Familiale* it should be said that, no matter the common disciplinary origin of the two journals, there are several lines of discontinuity between them. First of all, the community of authors behind each journal is almost completely non-coincident. From the 324 articles analyzed, only two authors wrote original articles in the two journals: Carlos Sluzky, a "founding father" of the family therapy field, and Mony Elkaim. In the view of this finding, the editorial policy of *Therapie Familiale*

concerning the publication of non-original articles, namely the ones translated from English, Italian and German family therapy journals is highly recommended. The double role played by *Thérapie Familiale*, being simultaneously a vehicle of publication of original research and a bridge between the different scientific communities of the field seems vital for the whole process of dissemination of information in the domain.

In respect to the bibliometric and citational characteristics of the two journals, the differences are also impressive. In fact, while the observations carried out with the "Average number of references per article" in *Family Process* points to a high impact journal in the general context of the social sciences literature, the results of *Thérapie Familiale* on the same variable points to a situation where the citation fluxes are low. The structural reason for this situation is related with the unbalanced amount of family therapy literature written in French comparatively with the literature written in English. However, when the "Country of professional address of first authors" is taken into account, a related circumstance calls our attention. In fact, *Thérapie Familiale* is much more open to publish articles of authors from different countries than *Family Process*. That way, and besides being based in a more restricted literature, *Thérapie Familiale* undoubtedly

assures the universality, or at least the internationalization of the discipline. The empirical verification of this assertion is given by the finding that during the same time period (1992-1994) 75% of the *Family Process* authors had a professional address in the USA, while for *Thérapie Familiale* 61% of the authors had professional addresses in one of the French speaking set of countries constituted by France, Belgium and Switzerland.

Discontinuities between the two mentioned journals were also found in other dimensions and variables. This is the case of the key words in the title of the articles, the scientific collaboration variables, the patterns of acknowledgement and the grants and awards.

In what respects the key words in the title of the articles the most significant difference between the two journals refers to the higher frequency of the category "Concepts" in *Thérapie Familiale*. Meanwhile, the categories "Family/ies", "Marital/couples", "Diagnostic categories" and to a certain extent "Methods," were more frequently observed in the titles of articles published by *Family Process*. This pattern points towards two different traditions of research in the French and English speaking communities of family therapists and researchers. Globally, the French speaking tradition of research is characterized by a strong influence of psychoanalysis, particularly during the first issues



published. A second feature of this tradition of research refers to the relevance given to case studies and specific institutional settings where family therapy was adopted as a model for intervention. On the other hand, the tradition of research in family therapy represented by *Family Process* is closer to an experimental scientific tradition.

Simultaneously, a special emphasis on the issues related with "Diagnostic categories" is much more obvious in the titles of articles of *Family Process*. The circumstances associated with the mental health delivery services in the USA and Europe help to explain this disparity, namely in what concerns the need for a diagnostic label as a *sine qua non* condition for the payment of the professional services provided in the USA. This context feature is not always existent in the French speaking community.

In what respects the scientific collaboration variables studied (i.e. percentage of singled versus co-authored articles, frequency of articles written by authors from different institutions, frequency of articles written by authors from different countries), the equivalence between the values found in the two analyzed journals is obvious. This finding points to similar scientific collaboration practices in what respects the bibliometric approach of the question. In fact, the ratio between single authored and co-authored articles indicates that it is more probable that



*Family Process* accepts co-authored articles rather than *Therapie Familiale*, a circumstance that is associated in some literature of bibliometry as a sign of research development. In the natural and exact sciences context of scientific publishing it is rare to find single authored articles. However, the difference between these two values are not statistically significant. The same happens in what concerns the "Scientific institutional collaboration". The only difference found at this level concerned the variable "International scientific collaboration". The journal *Therapie Familiale* showed no international scientific collaboration at all, at least in the way it was operationalized (i.e. a co-authored article with the professional addresses of authors located in different countries). In what respects *Family Process*, even with a very low frequency - 3 observations in 6 years of publication - the international scientific collaboration took place.

The two journals showed significant differences in what concerns the study of the patterns of acknowledgement and of grants and awards. In fact, these two dimensions were almost non existent during the six years of *Therapie Familiale* analyzed, while for *Family Process* the values of both patterns of acknowledgement and of grants and awards have been increasing since the first issue of the journal. The

same applies to the grants and awards dimension. While the institutional financial support of the research reported in *Family Process* was observed in half of the articles published during the time period 1992 to 1994, *Therapie Familiäle* reported only sparsely the institutional financing of the research reported.

In what concerns the characteristics of the two electronic lists analyzed (gender, country and institutions of location of lists participants) the equivalence of the results is obvious. In fact, the gender composition of the two and the amount of countries mentioned in the addresses of the participants were not significantly different. The only difference found concerned the amount of educational institutions involved. While for MFTNET 73% of the addresses were located in the mentioned institutions, this percentage dropped to 45% in the FAMLYSCI list.

The second line of comparisons between the list and the journals leads to the conclusion that concerning the 3 variables analyzed the list follows closely the values found in the journals studied.

The process of emergence and consolidation of the  
family therapy Field

As shown by the bibliometric and citational analysis of the journal *Family Process*, the family therapy field evolved in several dimensions during the period from 1962 - the first year of publication - to 1994. The most basic observation of the citational variable "References per article published", shows an increase from almost 10 to 35 references per article. Accordingly to the literature of bibliometry and citation analysis, this shows a clear evolution of the literature of the field. However, when these figures are compared with the corresponding ones of the journal *Therapie Familiale*, the situation becomes different. In this latter journal, the average number of references per article published evolved from 13.1 during the period 1980-1982 - the first three years of publication - to 14.8, during the period 1992-1994. Besides the obvious editorial differences between the two journals, the specificity of the dissemination of scientific information occurring in the French speaking community of family therapists and researchers surely played a role.

In what respects the "Number of articles published", the other citational variable studied in the selected journals, there were no noticeable differences registered.

The average number of articles published reach a minimum of 6.9 for the journal *Therapie Familiale* during the time period from 1980 to 1982, a middle value of 9.8 for the *Journal of Family Psychology* (1992-1994) and a maximum of 10.5 for the journal *Family Process* (1962-1964).

All the values found for the bibliometric variables studied agree with similar descriptions of the emergence and evolution carried out in other fields. At first, a scientific field emerged through the contribution of a specific scientific community that starts to publish research articles in a new journal. The initial literature is sparse and dispersed, but it tends to evolve into a specific one. That way, the self citing rates of the new field journal (or journals) tends to increase until a point when a second generation of researchers selects a new area of research and starts to publish in a newer journal. The first period of *Family Process* studied corresponds to the emergence of the discipline. A new paradigm and methodology are explicitly stated (Cf. Key words in titles of articles; e.g. "Family experiments a new kind of experiments"; "Family Diagnostics"; "Double bind"). However, the amount of literature directly related is sparse. In the field's consolidation phase the literature is well defined and available. In the family therapy case, less than 20 years were enough for the completion of this phase. A group of new



journals started to emerged. That is the case of *Journal of Marital and Family Therapy*, *Journal of Family Psychology*, *American Journal of Family Psychology*. More recently and revealing a movement towards a more refined specialization, the field observed the emergence of *The Journal of Feminist Family Therapy* and *The Journal of Systems Medicine*. As is concluded by the study of the evolution of different scientific areas, the literature of a given scientific field expands both quantitatively and in the degree of specialization through the emergence of new journals, usually addressing specific lines and programs of research. The bibliometric and citational data obtained in what respects *Family Process*, if viewed conjointly with specific circumstances of the history of the field, clearly reflects a similar pattern of scientific development.

The other bibliometric dimension that clearly reflects the evolution of the field is given by the Key words in the titles of articles. In the emergence phase of the field the new paradigm implied that the vast majority of the research reported was linked with the categories "Family" and "Marital/Couples". After the consolidation phase the categories of "Methods", "Diagnostic categories" and "Concepts" started to be used abundantly.

The distinction between emergence and consolidation phases of the family therapy field is also described by the



data gathered in what respects the "Institutions where the research took place" and the "Grants and awards" categories. These two dimensions considered together may give an account of the discipline context at least in what refers to institutional and financial support for the research published. In what concerns the institutional support of the discipline, Universities were always the leading institution. An exception for the emergence phase of family therapy in the French speaking context, where during the period 1980-1982 Institutes and Centers occupied the first place. This exception was due to the local circumstances of a vast number of European universities, where the hiring policies were almost frozen. Consequently, the introduction of new courses that reflected the emergence of new disciplines (such was the case of family therapy in Europe in the early seventies) had to emerge in a different institutional context. Currently, as shown by the professional addresses of first authors of articles in *Family Process*, in more than 60% of the situations, the address reported is an University. For the French speaking community of family therapists and researchers, the increase of the importance of universities is even more obvious since in 12 years universities jump from 11 as professional address reported by first authors (1980-1982) to 39 (1992-1994). The singularity concerning the emergence of family

therapy in the French speaking context - and thus a significant number of countries - is given by the fact that family therapy had to prove to be a scientific sound discipline, mostly outside of the university context. In what respects the origins of the financial support of the research as shown by the Grants and awards reported by authors of articles published in *Family Process* and *Therapie Familiale*, the situation is clearly different in the English and French speaking worlds of family therapy. In fact, during the emergence phase of family therapy a third of the articles published by *Family Process* expressed the support of some institution (22 grants observed in a total of 63 articles). This figure evolved to a situation where almost half of the articles published got the support of some institution (49 grants observed in a total of 103 articles).

The consolidation of the family therapy field as shown by the data gathered concerning the amount of grants and awards and the institutional address of authors reported in the two journals analyzed, shows that the referred phase coincides with the acceptance of the field within the academic context (i.e. Universities), and with the support - namely financial - of other institutions both Federal and private.

The institutional and financial support of the field's research, a third level of analysis is constituted by the

evolution of the community of scientists related with the field. At this level of analysis, the data gathered in what respects the gender composition of the fields authors, the scientific collaboration variables selected (i.e. single versus co-authored articles, institutional collaboration, international collaboration), and the network analysis, give a substantial description of the evolution of the field.

In what respects the evolution of the field in terms of gender composition a clear trend towards a gender balanced situation is visible in the thirty years of evolution reflected by *Family Process* citation and bibliometric analysis. From a starting situation where 82% of authors were male authors, the current situation (1992-1994) is characterized by a gender division where 54% of all first authors are male authors and 36% female first authors. In 10% of the situations it was not possible to assign a gender specific category to the author. On the part of *Therapie Familiare* the gender classification of first authors also points to a trend towards an egalitarian gender distribution of first authors. In the period from 1980 to 1982, 28% of the first authors were female authors while 46% were male authors. This division evolved to a 34% versus 44% in the time period that went from 1992 to 1994. The high rate of authors which could not be assigned to a specific gender category (24% for the first period, 22% for the second)

corresponds to a local tendency of some French speaking authors to write only the family name, making impossible any gender sensitive classification.

The variables selected in order to express the evolution of the scientific collaboration expressed by the journals analyzed also help to describe the consolidation of the family therapy field. The amount of single authored articles tends to diminish with the evolution of the literature of the field, as described in other scientific areas. In what respects *Family Process* the percentage of single authored articles was 72% in 1962-1964 and became 43% in 1992-1994. The corresponding figures for the journal *Therapie Familiale* were 76% for the period from 1980 to 1982, to 61% for the period 1992-1994. At the level of scientific collaboration analysis it is also noticeable the increase in what respects the institutional collaboration. However, the scientific international collaboration as defined in this study, is still very sparse in family therapy, both in the English speaking community and the French speaking one. In fact only three of the total 324 articles analyzed in the two family therapy journals were authored by researchers from different countries.

The network analysis done also points to a consolidation of the field, since the amount of network of



authors related by the same line of research clearly increases in the two time periods analyzed.

In what concerns the analysis of controversies carried out, the data gathered points to different situations. The first observation have to do with the absence of controversies in the journal that represents the French speaking community of family therapy. This observation may be related to a local editorial policy. A similar conclusion should apply in what respects the low number of acknowledgements observed in this journal when compared with the one observed in *Family Process*.

#### Comparisons between family therapy and family Psychology

The bibliometric and citational analysis carried out as well as the network and controversies analysis allowed the definition of differences between the related, though different fields of family therapy and family psychology.

In what respects the citational variables studied, The *Journal of Family Psychology* has the leading role in what concerns the variable average number of references per article. Given the general conclusion concerning this variable in the bibliometry literature, which states that a higher number of references per article is usually associated with scientific fields with high impact (namely



exact and natural sciences), It may be said that the family psychology field is solidly inserted in the scientific literature. In fact, a content analysis of citations would surely reveal that the most part of references in family psychology are made relatively to psychology literature. The situation is not the same in what respects family therapy, where the references are usually made to literature specific of the field. From a bibliometric point of view, it may be said that while the citation profile shown by *The Journal of Family Psychology* is closer to the one of high impact scientific fields, the family therapy literature is a more specific literature, occupying a space somewhere among the literature of psychology, psychiatry and social and behavioral sciences.

Based on the findings from the bibliometric analysis carried out, it seems reasonable to conclude that the context of emergence of family psychology decisively differed from the one of family therapy. This discipline emerged in a context of paradigm shift, and thus had to partly create its own literature. On the other hand, from a bibliometric point of view, family psychology maintains two levels of continuity with already existent literatures: the psychology literature, and the family therapy literature itself.

However, besides the differences found between the two fields in respect of the subjects and lines of research as shown by dimensions studied such as the key words in title of articles, the most striking differences were found in what concerns the network and controversies analysis carried out. In what respects the mentioned dimensions, the findings point to the existence of two separate scientific communities. Given the assumption that both the family therapy and family psychology fields have as objective the study and intervention of families, the main difference between the two concerns the methods used.

Dissemination of information in the French speaking  
Context

Given that the journal *Therapie Familiale* was the first family therapy journal published in French, the analysis carried out is particularly relevant in addressing the question of the dissemination of information of scientific information related to family therapy. The main conclusion to be addressed at this level concerns the specific forms of scientific communication occurring in this context. It would be reasonable to expect that the scientific communication procedures would be universal, no matter the discipline considered. However, the results point to more variability

between the two journals of the same discipline (*Family Process* and *Thérapie Familiale*) rather than between the two journals of different disciplines (*Family Process* and *Journal of Family Psychology*). This was found in the bibliometric analysis carried out, but was even most evident in what refers to the patterns of acknowledgement and grants and awards. In the same line the analysis of controversies was not carried out in what respects the French speaking community of family therapists and researchers, given the fact that controversies were not found in *Thérapie Familiale*. The bibliometric, network and controversies analysis do agree on the discontinuity between the communication process in the English and French contexts of family therapy. However, one of the findings goes in the exact opposite direction. In fact, the importance of universities as the most frequent setting of authors of *Thérapie Familiale* articles, points to a convergence with the English speaking community.

Family therapy and family psychology emergence and  
consolidation processes compared with other  
Disciplines

The sociology of science literature describes several processes of emergence of different scientific disciplines.

Given the set of studies made in what respects the family therapy and family psychology journals and lists, it seems important to confront the conclusions achieved here with others. As pointed out by diverse studies the emergence of a scientific discipline should be seen in the context of other dimensions namely economical and political. This was observed by sociologists of science in diverse domains: thermodynamics, tropical medicine etc. In this light, the emergence of family therapy acquires a special meaning. In fact, some authors observed the relationship between the emergence of family therapy and the political context coincident with its creation, namely in what respects the decisions concerning mental health programs created by the president John F. Kennedy (Hoffman, 1981). The characteristic epistemological and procedural rupture introduced by the family therapy model, a Copernican revolution according to some authors, was possible because of the favourable political context.

Family psychology had a different emergence. Judging from the findings obtained, it corresponds to a development within the discipline of psychology. Contrary to family therapy, its emergence was not related to a political decision to solve problems of social nature. This way, family psychology is a highly academic, professional and research oriented discipline. The criteria to assess the



research produced in its frame is intrinsically scientific and academic. Given the coincidence of subject of study between the two disciplines a very interesting situation evolved at the methodological level. In what respects the assessment of methods, procedures and models developed previously by family therapists it is now possible for family psychologists to apply experimental and quasi-experimental methods contributing that way to its universality and validity.

Electronic media of scientific communication and the  
evolution of family therapy and family psychology  
Fields

The emergence of electronic media of communication may decisively alter the development of a scientific discipline. In fact, the situation is somehow comparable to the emergence of the written scientific journal which occurred in the 17th century, with all the known consequences for science during the modern era. However, and besides the implications perceived by the introduction of electronic communication, a major difference still persists between the two historical situations (i.e. 17th century emergence of the "conventional" scientific journal, and nowadays



emergence of electronic communication). The first circumstance corresponded not only to the introduction of a new media of communication, but was also coincident with a new scientific attitude. It seems that, no matter how big the consequences introduced by the electronic media in scientific disciplines, even in a non consensus status concerning the near future (Cf. interviews with electronic lists organizers), one thing is certain: the electronic media of communication will not produce a shift at the epistemological attitude of scientists towards science.

The coming out of specific interests electronic nets, and the probable emergence of an electronic journal in the family studies area, will certainly take place in the near future.

## APPENDIX

### QUESTIONNAIRE TO ELECTRONIC LISTS ORGANIZERS

1. What are the main features of the list you organize (e.g. number of subscribers, rate of growth, institutions and countries involved, number of messages exchanged etc.)?
2. Is there any institution who gives support (e.g. moral, knowledge, financial, computer facilities) for the electronic list functioning? Which one?
3. What differences do you see between your role as an electronic list organizer and a conventional scientific journal editor?
4. How do you evaluate the impact of the electronic lists you organize for the discipline more closely related with your work and research (e.g. family therapy, family studies)? Did you received any feed-back from journal editors or from the professional organizations related with your area?
5. Is the impact of the electronic list you organize part of your work plans in what respects the participation of

scientists/researchers/clinicians from less industrialized countries?

6. What are your expectancies concerning the future of scientific communication in the next five years? Do you think that the conventional scientific journal is going to suffer a progressive extinction?

7. Are you planning any action - in what respects the electronic list management - concerning the dissemination of information in no-English speaking contexts (e.g. bilingual messages and specific informations)?

Thank you very much for your collaboration.

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